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with which is combined Operation & Maintenance

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HANSEN — HARDWARE for Commercial Bodies

A Whale of

This 62-ft. sperm whale, weighing 65 tons, harpooned off the coast of Southern California by the oldest whaling captain in American service, was transported on two 50-ton capacity trailers from San Pedro harbor for public exhibit at Hollywood.

TEXACO
REG. T. M.

TEXACO

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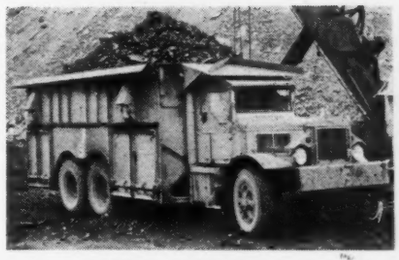
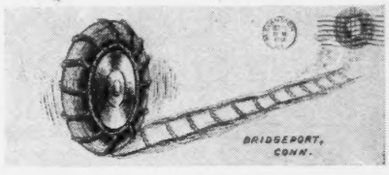
COMMERCIAL CAR JOURNAL
VOL. LIV, NO. 6 FEBRUARY, 1938

THE OVER LOAD

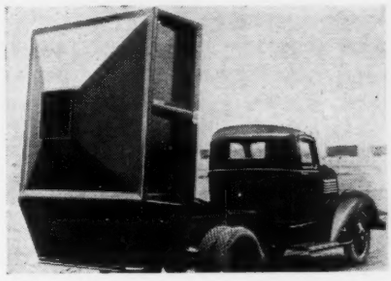


Said to be the world's largest are the two Mack six-wheelers used by the Sunlight Coal Co. in southwestern Indiana. Each carries a 30-ton load in the 40 cu. yd. steel body

A Chicago dairy found rear doors unnecessary for milk can shuttling. Their newest Highway trailer has only a 28-in. door in each side; hauls more cans in the bargain



More work for addresser and post office, but it proved American Chain & Cable Co. was well known, and was delivered promptly



Dust control is the most unusual feature of this Anthony body used by Owens-Illinois to transport glass mix. It's a Dodge chassis

Crowe Coal Co., Clinton, Mo., keeps its big International coal strippers in top shape even though seldom seen by outsiders. Each driver washes his own truck every afternoon

From Out of the West

This issue is a bit top-heavy with S.A.E. stuff, but we don't think you'll complain. Way out in San Francisco, Cal., at an S.A.E. regional transportation and maintenance meeting, an Oregon operator discussed diesel operation as it was never discussed before. We wired him for his story, arranged for special pictures, telephoned S.A.E. headquarters in New York for assistance and by airmail and special delivery the necessary material arrived in time to make this issue in the form of "40 Below." It's the most interesting diesel yarn we have ever read. Check us on that opinion.

And Out of the Mid-West

Not quite so far out—in Detroit, to be exact—the transportation and maintenance sessions at the annual meeting of the S.A.E. attracted some very able speakers. We had staff men covering the affair and they picked the choicer morsels for you. The discussion of traveling mechanics you'll find in the article with the nostalgic title "The Rover Boys on the Pan." The papers on tires and on the Government's investigation of the hill-climbing ability of trucks are presented in a form which you can't miss.

's Logs Not Slugs

And while thumbing through don't let the heading "Men Against Worms" mislead you. The article has nothing to do with the alimentary canal. It's the logging story we promised you.

The Pause That Refreshes

When you come to The Album Department give your thumb a rest, spread the pages apart and notice what we've done to make this department more readable and interesting. Our purpose is to have you giggle at the old truck models and gape at the new. If fleet operators want to contribute "old and new" pictures to The Album, we'll welcome them with whoops.

A Treat for the Eyes

And speaking of readability, please note the size of the type used in the text matter of feature articles. (Departments vary.) It is a size larger than previously used. In case you are interested, it is 10-point Bodoni Book on an 11-point slug. Very few publications use a type as large as this.

A Load of Lingo

Next month we are going to gather together all contributions to our Lingo Slinging Contest and publish them alphabetically. Meanwhile, here are a few choice ones just received. From H. N. Gall, Lancaster, Pa.—Sold out to the Yankees—A southern driver who has cracked-up his truck; Balloon Freight—Light, bulky merchandise. From Chas. H. Hurlbut, Jr., Bellingham, Wash.: Company Notch—low gear; Rider—a flat on duals that carries no load. From T. H. Reveley, Providence, R. I.: Kidney Buster—hard-riding truck; Sweat Shop—bullet-proof cab with little ventilation; Cop Caller—truck with squeaking brakes. This contest has no closing date. Sling the lingo at us and we'll pay you 25 cents for each word and definition accepted.

Adventure Story

Some loads of motor freight are handy in more ways than one. Raymond Hehr, driver for J. L. Scheffler, Forwarder, Chicago, stopped to help put out a fire on an Olson Transportation Co. truck. Both drivers exhausted their fire extinguishers but the day was saved only when Driver Hehr remembered that he was hauling a load of Pyrene extinguishers. He broke open a carton and seven extinguishers did the trick.

One for the Record Book

C. L. Barcus, Powell, Ohio, contractor, rises to proclaim that a Goodrich 30x5 tire he purchased several years ago has already given 130,000 miles of continuous service. It has outlived two trucks and is now on the third one.

Non-Political Note

Says FDR: "We won't let the people down."

Says a wisecracker: "When will he let business up?"

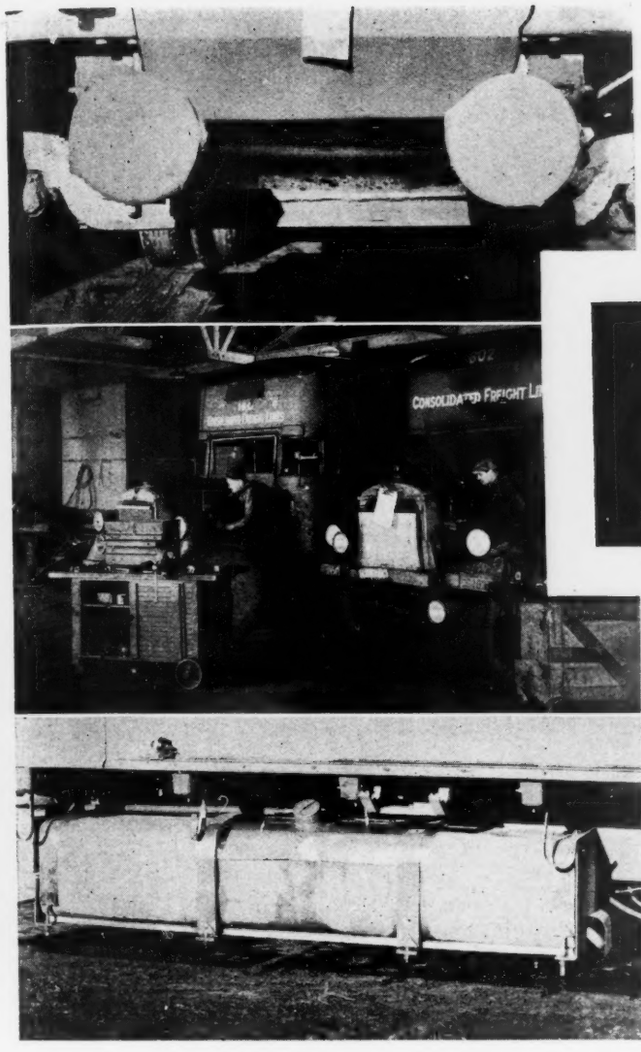
DIESELS DELIVER at 40

IN the maintenance of a fleet of heavy duty trucks used in intercity transportation the first problem is to set up standard maintenance operations and periods at which they are to be performed. They should be set up conservatively and changed as experience warrants. On the basis of our experience we now grease all road equipment at 1000 miles, give it a thorough inspection and tightening at 2000 miles, adjust the valves at 2000 miles, change oil on trucks equipped with filters at 3000 miles, repack wheel bearings at 15,000 miles, change transmission and rear axle lubricant at 20,000 miles and check valves, pistons, rings, sleeves and bearings at 45.000 miles. These operations are performed when the mileage is reached regardless of apparent condition. All other work is performed as required. We have a complete record of all maintenance work done and mileage run by all units or parts such as brake lining, etc.

Most of our road equipment is powered with Cummins Diesel engines. We have in service 115 engines which have run a total of over 25,000,000 miles. At present we are adding over 800,000 miles per month to our experience. Ten engines have already run in excess of 400,000 miles each. Many more have run well over 300,000 miles.

As a result of our experience we have adopted standard practices covering Diesel maintenance and operation. There is no question but that Diesel engines are far more sensitive than gasoline engines used in the past. We have established beyond any possible doubt that the Cummins engine must be driven within the range of 1500-1800 r.p.m.

The Amazing Story of



By

J. L. S. Snead Jr.

Equipment Engineer, Consolidated Freight Lines, Inc., Portland, Ore.

Speaking before the SAE West Coast Regional T & M meeting Mr. Snead (in square above) told how his company designs its own exhaust manifolds for the diesel equipment (opposite page). Note also the brackets for horn and mirror, the recording device and fan in cab. On this page you see the special metal shield to keep out the breeze, a glimpse of the company's shop and the diesel fuel tank, kept warm by exhaust gasses which pass through it

for really successful operation and water temperature must be kept between 160 deg. and 180 deg. Lugging results in incomplete combustion, excessive cylinder wear, bearing failures, stuck rings, excessive deposits of sludge and carbon, plugged injectors and, of course, loss of power due to them.

Our experience has proved that a truck that has been driven several hundred miles at engine speeds below 1500 r.p.m. will carbon up, miss and perform poorly. The same truck can be driven several hundred miles at engine speeds between 1600-1800 r.p.m. wherever possible with amazing results. The engine will clean up and after a few hundred miles performance will return to normal. One more rule must be observed. The engine must never be used as a brake at speeds in excess of 1600 r.p.m. This is important.

The fuel pump setting is vital. We have found that an engine receiving more than 32 cc's (according to Cummins standard fuel test) will show rapid cylinder wear, dilution and excessive sludge and carbon. The power is greater with more fuel but the maintenance costs outweigh the advantages of additional power. A truck geared so that the engine must operate for long periods at speeds lower than 1500 r.p.m. should not be given over 30

(Turn to Page 64, Please)

BELOW

25 Million Miles of Grueling Diesel Operation

The ROVER BOYS ON THE PAN or

Are Traveling Mechanics a Luxury or Life-saver to Fleets? Also a

TO have or not to have traveling mechanics was the most thoroughly discussed question of the opening transportation and maintenance session of the 1938 annual meeting of the Society of Automotive Engineers, at Detroit, during which period Gavin W. Laurie, Atlantic Refining Co., read a paper "Economic Maintenance of a Concentrated Fleet of Large Trucks," Capt. Oscar A. Axelson, Columbia Gas & Electric Co., read S. B. Shaw's paper, "Economic Maintenance of a Concentrated Fleet of Mixed Vehicles" in Mr. Shaw's absence, and H. O. Mathews, automotive engineer, Public Utility Engineering & Service Corp. read a paper, "Economic Maintenance of a Scattered Fleet."

Mr. Mathews touched off the discussion with the follow-

Across the top: Capt. Axelson stands in for S. B. Shaw as Chairman Orr follows the paper. The attentive listeners: G. W. Laurie, proponent of fleet records and Fred Faulkner, who boosts his rover boys. H. O. Mathews (top, lower) says inspectors are in the wrong place when trouble occurs, but Austin Wolf and Leo Huff are absorbed in their own discussion. At left: O. M. Brede has record forms for non-writers while Jack North has a word about factories and his 2700 vehicles

Word or Two on Chromium Plating, Engine Cleaners and Cost Records

ing excerpts from his paper:

"In my opinion, the maintenance of a scattered fleet must be closely tied to the dealers and the manufacturers of the particular vehicle which is to be serviced. The peculiar thing, and a natural one, is that the best dealer's service is in the cities and towns where company garages are maintained.

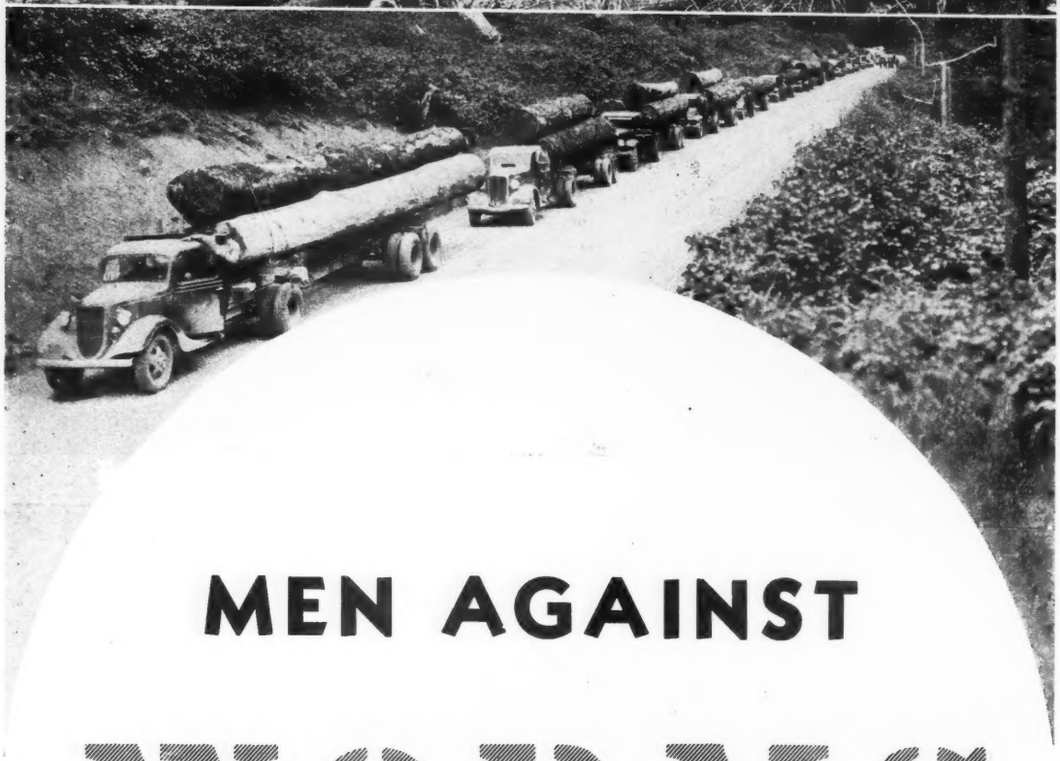
"It will be argued by many that the most economical maintenance of this type of fleet is by means of a traveling inspector who is a combination inspector, serviceman and mechanic. This inspector spends his entire time inspecting and repairing scattered vehicles. To this plan I cannot agree. The first requirement for the inspector is a means of transportation, which will cost at least $50 per month. The next requirement is a complete set of tools, gauges, etc., in which the investment will be approximately $500. Next there is the time required for the inspector to travel from job to job unless, of course, the company is fortunate enough to have an 80-hour-per-week man. This 80 hours is not a guess but represents the actual working hours of some of our traveling inspectors. The average wage for the inspector would be approximately $200 per month and his expenses while away from home would be at least $2.50 per day. The total cost of the traveling inspector would, therefore, be approximately $300 per month plus the depreciation on the tools and equipment he uses.

"The amount of productive work which this inspector can do in a month warrants some discussion. In my opinion he should inspect and make the minor repairs on 100 scattered vehicles once each month or six weeks. While this amount may be subject to criticism, I believe it will represent the average. The cost, therefore, is $3 per vehicle per inspection. If much repair work is necessary the cost will, of course, be greater. This amount appears to be too high for economical maintenance of a fleet of 100 vehicles.

"Another point against this plan is our experience that the inspector is in the wrong place when trouble occurs and additional traveling time is necessary to get him to the job to make the repairs.

"The foregoing data has been presented as an illustration of the cost of this particular plan of maintenance. Now let us look at another possibility. Some time ago one manufacturer developed a preventive maintenance plan which involves the dealer's service. This company is to be congratulated on this development. In my opinion it is a large step in the right direction. The trouble is that again this service is available in the larger cities where company garages are maintained, while the dealer in the

(Turn To Page 70 Please)



MEN AGAINST WORMS IN

Trucks Bring Victory to Men in a Dramatic Struggle with Ravaging

By Henry W. Young

THE TILLAMOOK BURN

Nature to Salvage the Aftermath of Oregon's Biggest Forest Fire

MANY assume that a great forest fire burns up the timber it attacks, leaving a path of charcoal and ashes. This is not the case in the evergreen forests of the Pacific Northwest. While the fire consumes, in a leisurely way, a great deal of the undergrowth and some of the bark on the trees, it is through the resinous and highly inflammable foliage that the flames speed onward with almost explosive violence. When all is over, there is left a ghost forest, changing with the passage of time to a silvery whiteness.

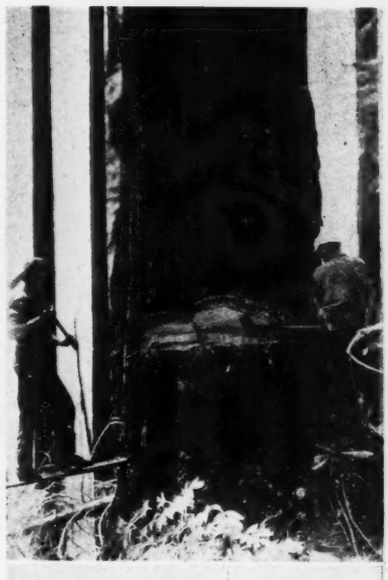
The dead trees of such a forest are suitable for lumber during only a limited period. They would last almost indefinitely if it were not for the insect army that descends upon them almost with the cooling of the ashes. This host starts the work of home making and worm raising. After about seven to 10 years, the worms will have made the wood unfit for lumber. If the timber can be reached and logged on a profitable basis during the period, considering both accessibility and the price of lumber, all possible speed is made to get the logs out. Logging and lumber mill companies log their own holdings, and also buy the dead standing timber from private holders where it can be reached.

In the salvaging of such a burn, the modern truck with special logging equipment and trailer, is proving an extremely valuable. and in many parts of the burn the only means of bringing out millions of board feet of logs. Most of them cannot be reached by any existing logging railroads, and with the short time available, it would not pay to build them. It is reported that during the past summer, logs from all parts of the great Tillamook burn in western Oregon were coming out at the rate of a million board feet per day, for surplus only, not counting those going direct to the saws. A large portion of these are coming out by truck, over two new Portland-to-Coast highways now being built through the burn. The western ends of these highways are rough graded and have made it possible for trucks to serve logging operations in parts of the burn that never would have been accessible otherwise. Incidentally, the heavily loaded trucks are packing the new roadbeds into the best possible condition preliminary to surfacing.

What kind of trucks are used? How are they equipped? By whom are they operated? These questions could best be answered by going to a burn and watching them operate, riding them up into the woods. This Tillamook burn was selected because there the operations are largest. This was the classic forest fire of all time, within the knowledge of man.

On Aug. 14, 1933, a big fir in falling rubbed against a cedar, on a log-

(TURN TO PAGE 89, PLEASE)



Opposite page top: The great ghost forest covers 262,000 acres, 400 sq. miles. The battle goes on between insect and logger. Below: 15 trucks carrying 6000 to 8000 board ft. to the load lined up for this photograph. This page top to bottom: Part of the timber operations must still be done by hand but here's a load for any truck. The superintendent of the "side" acts as high climber to reeve a new tong line. For the up run, trailers are carried on the truck's back; here's one being hoisted off by the same tong line that will load it

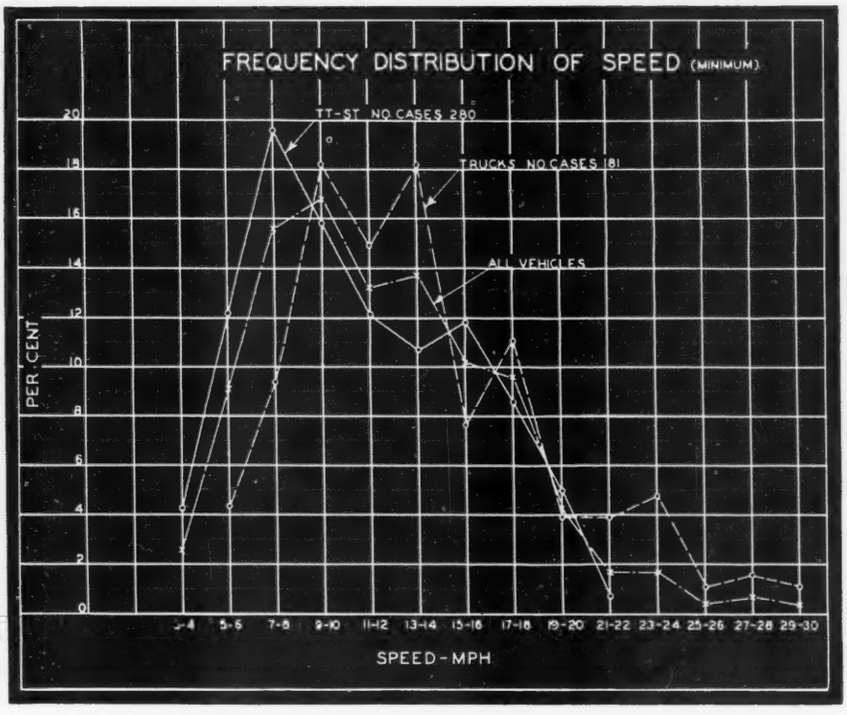

FREQUENCY DISTRIBUTION OF SPEED (MINIMUM)
TT-ST NO CASES 280
TRUCKS NO CASES 181
ALL VEHICLES
PER CENT
SPEED - MPH
3-4 5-6 7-8 9-10 11-12 13-14 15-16 17-18 19-20 21-22 23-24 25-26 27-28 29-30

Fig. 1. Showing the percentage of each type of vehicle which attained any given speed (see bottom scale) on the 6 per cent grade. The tractor semi-trailer combinations are designated as TT-ST

U. S. BUREAU OF PUBLIC ROADS'

ABILITY

FACTOR STUDY

A Report Setting Forth the Inconclusive Results of Observations on a U. S. Route 40 Hill

By

J. Trueman Thompson

Highway Research Specialist, U. S. Bureau of Public Roads, and professor of Civil Engineering, The Johns Hopkins University

Before SAE's Truck, Bus and Railcar Session Author Thompson (left) speaks of truck tests. Discusser Horine (right) praises his approach and (on opposite page) Chairman Johnson reads the opinion of an absent discusser

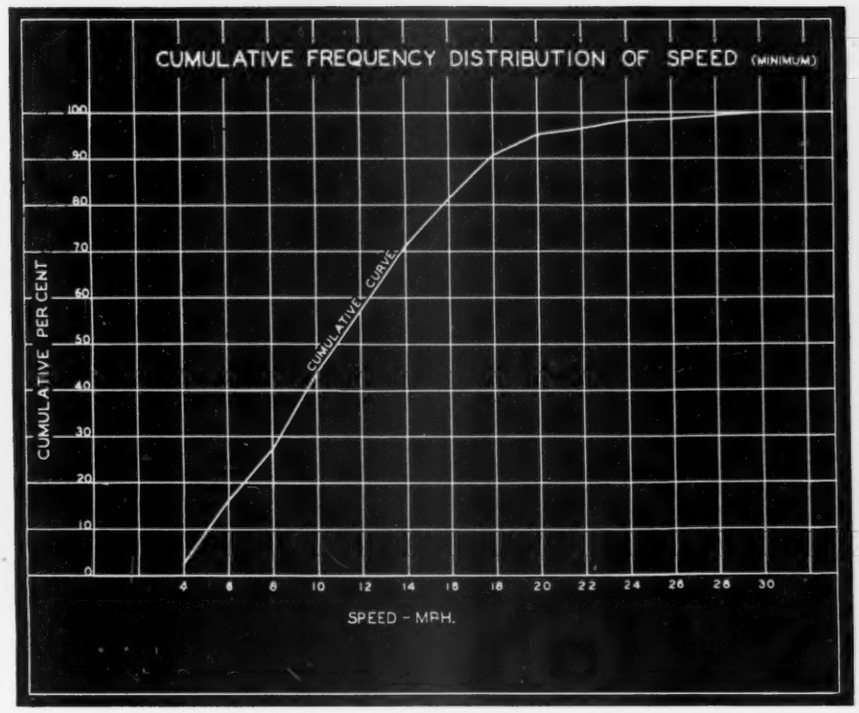


Fig. 2. Showing the percentage of all vehicles tested which could make the 6 per cent grade at given speeds. Vehicles above the curve made the speed indicated; vehicles below curve did not

A NEEDLESSLY large number of motor vehicles travel at such slow speeds as to impede the proper tempo of traffic. Something must be done about it because the presence of these slow moving vehicles hampers the rapid transportation of people and goods and thus seriously interferes with the efficient use of our highway capital plant. Something must be done about it because of the frailty of the patience of the human animal which prefers to take chances with his property, his passengers, and his own skin to staying in line behind a car or truck that either cannot or will not move at a reasonable speed.

To point to the problem is easy—to solve it is exceedingly hard because it involves so many interests and so many factors. The manufacturer of equipment, its owner and operator, the public whose interest it serves, and the motorist and the general taxpayer, both of whom help pay for our highway system, are all profoundly affected.

What can be done about it? As we see it, there are four possible lines of attack: we may reduce gradients; we may separate fast and slow traffic either by multi-lane construction, or by building two separate and distinct routes; we may hold power plants at their present level and reduce legal loads; we may retain present load restrictions and increase engine power.

Obviously none of these solutions will be adopted to the exclusion of the others. An intelligent approach demands that the economics and safety of highway transport be studied as it is influenced by the application to the problem of various combinations of these possibilities.

Working in close harmony with the Interstate Commerce Commission and with the automotive industry through such bodies as the Truck Sub-Committee of the Automobile Manufacturers Association, the Bureau of Public Roads recently undertook an investigation which it is hoped will furnish some of the information upon which rational decisions and intelligent regulations may be based.

It was thought that a picture of current hill-climbing practice was of fundamental importance and accordingly our first efforts were directed during the past summer to the development of apparatus and procedure by which we could get such a picture.

A uniform 6.0 per cent grade was selected on U. S. 40 near Baltimore. This hill was located 4.5 miles from a State Roads pit scale, and its length of approximately 2000 ft. was sufficient to decelerate practically all trucks to a constant climbing or crawl speed.

Procedure at Weighing Station

The procedure may be divided into two parts. That part involving the weighing station consisted of securing detailed information which might affect the vehicle's ability to negotiate the test hill. Gross weight, drive wheel tire sizes, governed speed, total

ABILITY

FACTOR STUDY

mileage traveled and mileage since last engine replacement or overhaul were tabulated as were identification data such as license numbers, make, model, year, engine and serial number, etc. Special rear axle assemblies were also noted. When all information was gathered a red card was attached near the right end of the front bumper. This card, visible from a considerable distance through binoculars, served to warn the speed-recording crew on the hill of the approach of a test vehicle. This was necessary because great care was exercised to keep truck drivers from knowing that their speed was being observed.

Speed Recorded on Test Hill

When the vehicle reached the hill its speed was measured by recording the instant it ran over each of 12 equidistant electric road strips laid on the road surface. At the end of the day's work the records were turned over to a small office force which analyzed them for vehicle speed by scaling position and time intervals. The vehicle was specifically identified against the weigh-station record.

By this procedure an average of about 10 vehicles per hour were observed.

Further Tests Desirable

Before discussing the data which were secured specific attention is called to the fact that our job thus far has been one of development and of laying plans for the future. Therefore the data presented are in no way conclusive. They are presented here merely to indicate what kind of information may be gathered by a procedure similar to the one used.

Fig. 1 is a frequency distribution diagram of "crawl" speeds, i. e., of minimum sustained climbing speeds to which the 6 per cent grade reduced the vehicle. From such curves we will be able to ascertain what portion of vehicles is pulled down to various speeds by the several steepnesses of test grades contemplated.

Fig. 2 shows a cumulative frequency curve of crawl speeds. Similar information for a variety of grades will help us see what percentages of vehicle will be affected by the several grade-speed stipulations which may be under consideration for proposed regulations.

Fig. 3 shows the general effect of gross weight upon climbing speeds on the six per cent grade. Since the principal variables which must be satisfactorily adjusted are speed, weight, and grade the usefulness of such data for a number of grades is obvious.

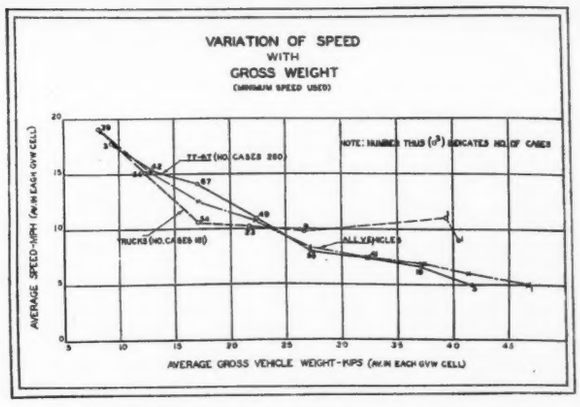

VARIATION OF SPEED
WITH
GROSS WEIGHT
AVERAGE SPEED-MPH (AV. IN EACH GVW CELL)
AVERAGE GROSS VEHICLE WEIGHT-KIPS (AV. IN EACH GVW CELL)
TT-ST (NO. CASES 280)
TRUCKS (NO. CASES 181)
ALL VEHICLES

Fig. 3. This indicates the variation in speed on 6 per cent grade by gross vehicle weight classifications. Number of vehicles tested too small for conclusions

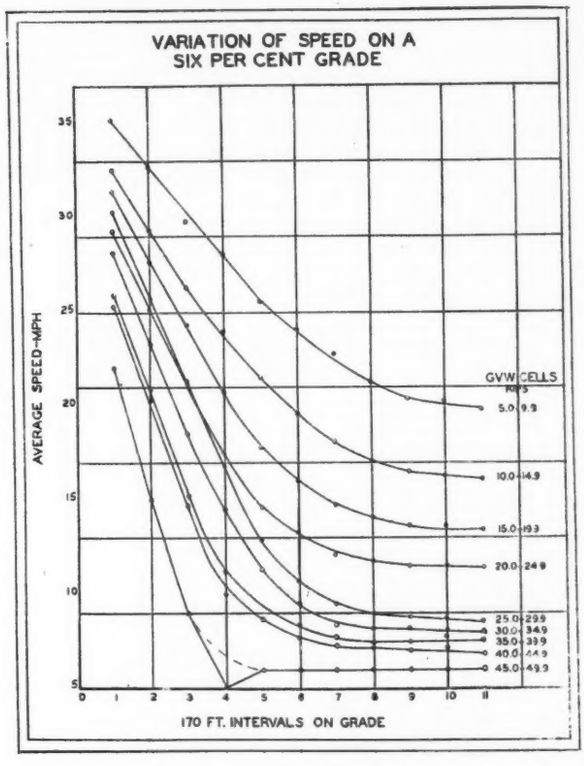


Fig. 4. Showing the average decrease in speed on the 6 per cent grade for various gross vehicle weights as they passed each marker station at 170-ft. intervals

Fig. 4 shows the relative drop in speed as trucks of various weight classes ascended the six per cent grade. Additional information of this kind is necessary for a variety of grades when consideration is given to grade reduction since the effect of length of hill will play an important part in deciding which categories of hills to reduce.

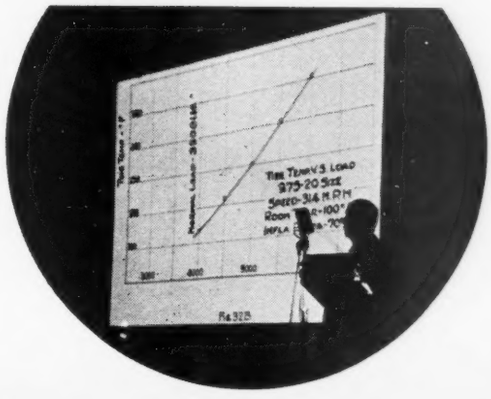
All of the data just referred to were secured for trucks just as they happened to come along except that

(Turn To Page 82, Please)

Chairman F. K. Glynn, A T & T (top) introduces Speaker J. E. Hale to Detroit T & M session. As Hale gets under way (above) pointer is ready for chart slides (below)

TIRE WHATS & WHYS

What Type of Tires to Pick for What Job, . . What Troubles to Guard Against . . and Why



By

J. E. Hale

Manager, Development Department, Firestone Tire & Rubber Co.

THIS is intended to be a matter-of-fact presentation of the present trend in tires as they pertain to fleet operations. The tire business is no longer simple. Each year it becomes more and more complex. As a consequence the fleet operator, to get the most out of tires, has to specialize in his selection of tire equipment and must, too, understand the problems which develop in the use of tires in connection with his particular type of operation.

I shall attempt to make recommendations as to the preferred type of tire for the different classes of operation which might serve as a guide in choosing tire equipment. To cover this completely would require too much detail, but by classifying similar operations in suitable groups, it seemed possible to give a fairly comprehensive line-up. Allowance must be made for cases where the classifications overlap because obviously there are many border-line examples.

City Operations—Heavy Freight

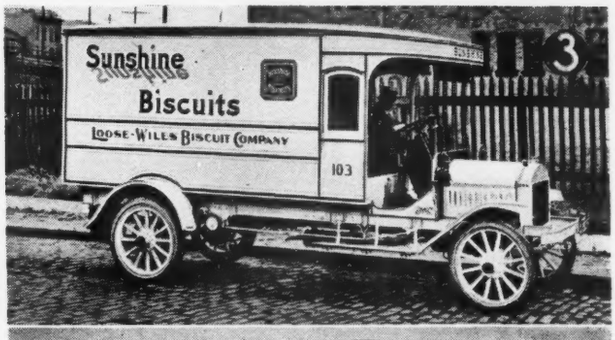
In this group is listed city freight, wholesalers, city coal deliveries, meat and provision deliveries, building materials, beverages, moving vans, etc. Characteristics of these operations are heavy hauling with medium and large size units, both trucks and truck tractor-trailer units, practically all on paved or improved streets.

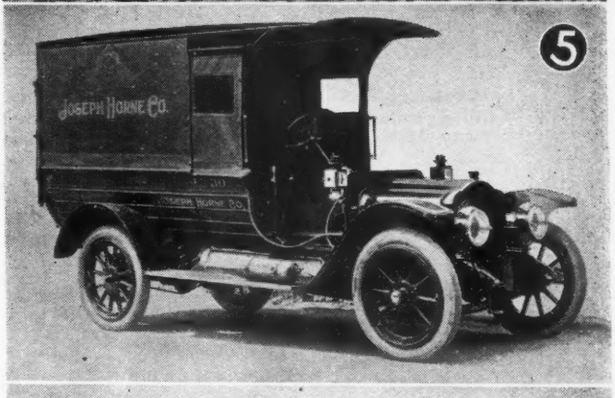
The preferred tire recommendation for vehicles in this group is the regular truck-bus balloon. For replacements on existing vehicles already equipped with regular high pressure truck-bus tires, this type is logical but is not recommended for new jobs.

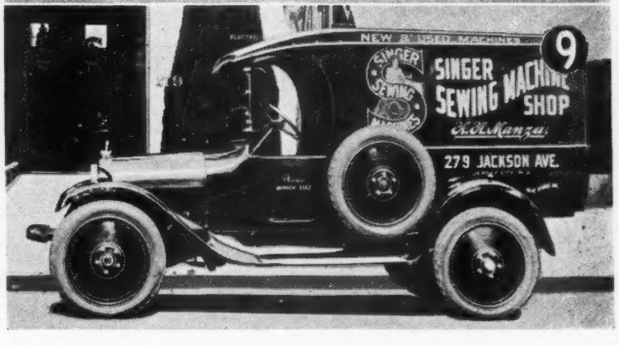
Overloading, under-tiring, neglect of inflation, bumping curbs, injuries from bad pavements, and litter

(Turn to Page 76, Please)

THE ANTIQUE ALBUM

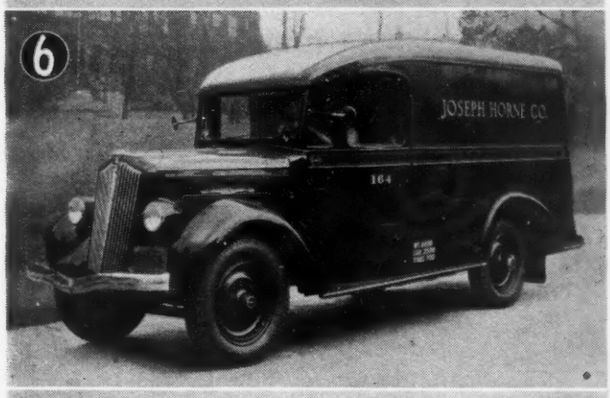


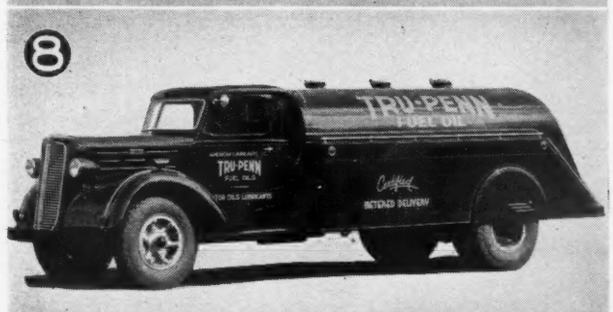




1 & 2. Back in 1920 if your boiled shirt arrived in time for the party but in somewhat wilted condition, it was probably due to the mangling it got after leaving the mangle. It was bumped around town at about 15 m.p.h. on solid tires, and if you think that won't wilt man or shirt, try it yourself sometime. At that, the "dated" International model was a big improvement on the horse which did not even get the shirt there in time. Seventeen years later the shirt (not the same one, we hope) arrives in a style to which even a lot of passenger car owners are not accustomed. Speed, style and stamina have been built into the 1938 model INTERNATIONAL, which is being used by the same laundry and delivering to the same customers. The lion is the only feature of the truck that has not been streamlined

3 & 4. In by-gone days truck drivers wore straw hats so the body builder apparently had to fit this GMC chassis with a canopy to protect the Kelly. The hat was handy, though, to keep spare links in while he was lying on his back trying to piece together the drive chains that had a bad habit of snapping when a long way from home. Times and trucks change as you can see, but people still eat crackers, and GMC and Loose Wiles Co. still get together on trucks with results favorable to both. (Ed. Note—Our latest figure on hauling crackers is $0.00000000448 per cracker mile)





The MODERN ALBUM

5 & 6. If you are old enough and have a good memory you can probably remember the early American air conditioned cabs and horns that needed vulcanizing occasionally — left hand drivers and right hand wheels and headlights that were turned on with a key and lit with a match. All of these features disappeared in White's march of progress, as the Joseph Horne trucks can prove

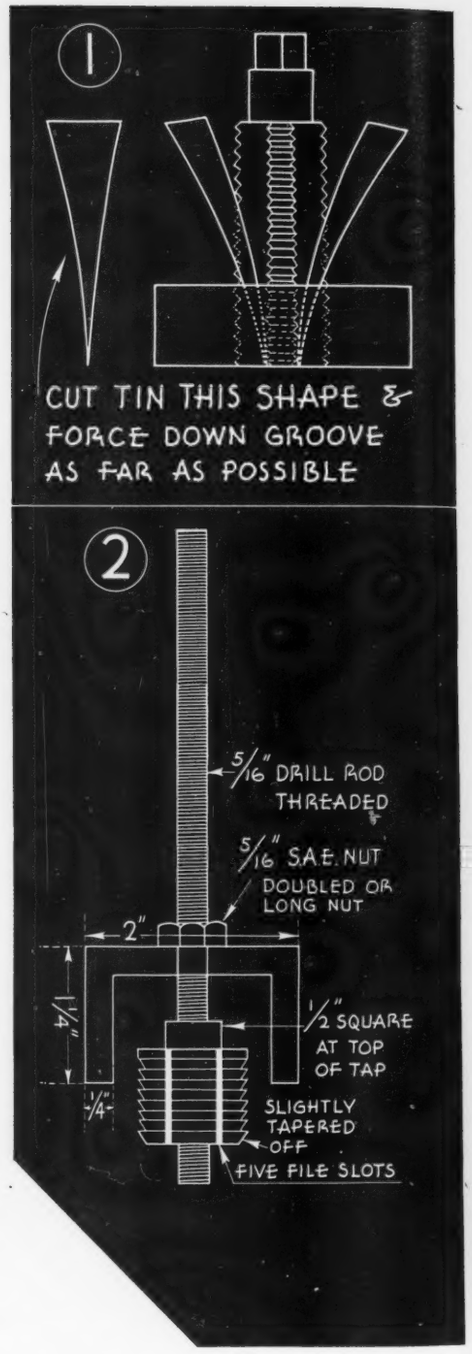
7 & 8. On the 1916 Stewart tanker the cargo was better protected than the driver, especially in a cross wind. However, if you'll look closely, you'll see the driver was nearer the pneumatic tire ride than the cargo, which made matters about even. A peek to the right proves that currently neither driver nor cargo has any complaint about the ride, and Stewart has the weather situation well in hand

9 & 10. When windshield wings (remember) were in flower the operator of this 1922 Dodge highboy with a view towards efficient operation installed a Boyce Moto-Meter in his radiator cap. Today the operator installs an ornamental vacuum cleaner on the sleek-lined Dodge to advertise business

Will Be Paid by Commercial Car Journal for Each Shop Hint Accepted. Ideas

5 Dollars

SHOP HINTS from FLEET SHOPS



1. Thread Chaser

By Frank P. Coulomb

Emsco Concrete Cutting Corp., Los Angeles

In some cases a nut is found to go on tight on studs, spring clips, etc., and many times running a tap through the nut does no good. A die cannot be run over the stud because of close quarters.

A time saver is to take two pieces of tin and cut to an acute angle triangle, the size to be determined by the size of the tap. Place the two pieces of tin in grooves of the tap and proceed to tap out and this will oversize the thread. If nut is still too tight repeat the process with two new pieces of tin as the first ones will be cut to pieces.

2. Blind Bushing Puller

By Walter L. Sedlacek

Sedlacek Auto Service, Omaha, Neb.

This puller is made up of a tap, a length of 5/16 in. threaded drill rod, a 5/16 in. nut doubled or long and a U clamp made of ¼ in. iron drilled 5/16 in. in the top center. The tap is made from drill rod stock. It can, of course, be made in different sizes.

The procedure is simple. The tap is screwed into the bushing as far as possible using a wrench on the ½ in. square on top of the tap. Then screw the drilled rod into the tap and install the clamp. Then by tightening the nut on the drill rod the bushing is pulled out.

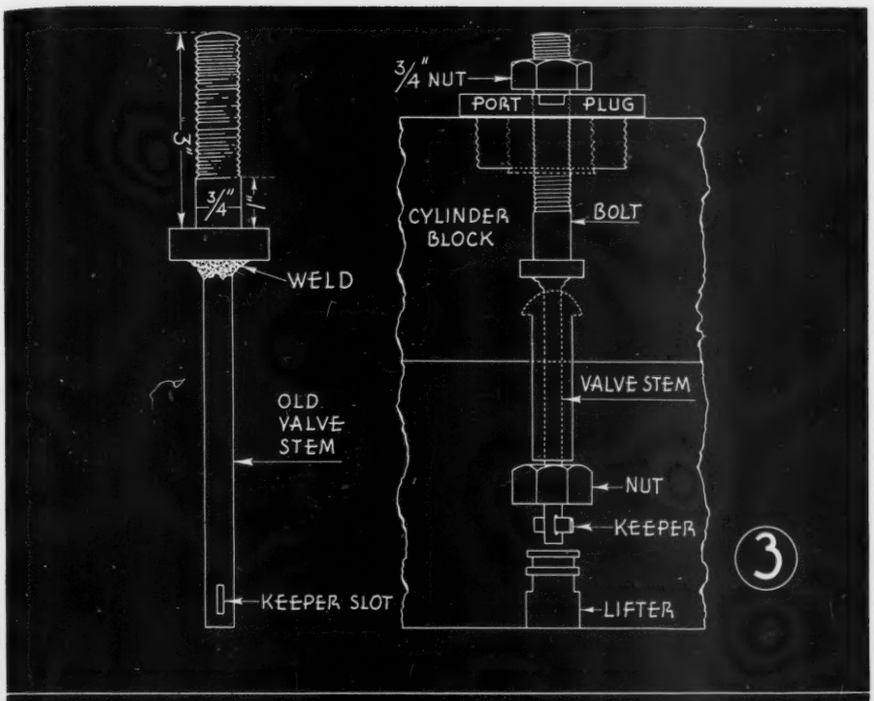
3. Valve Guide Puller

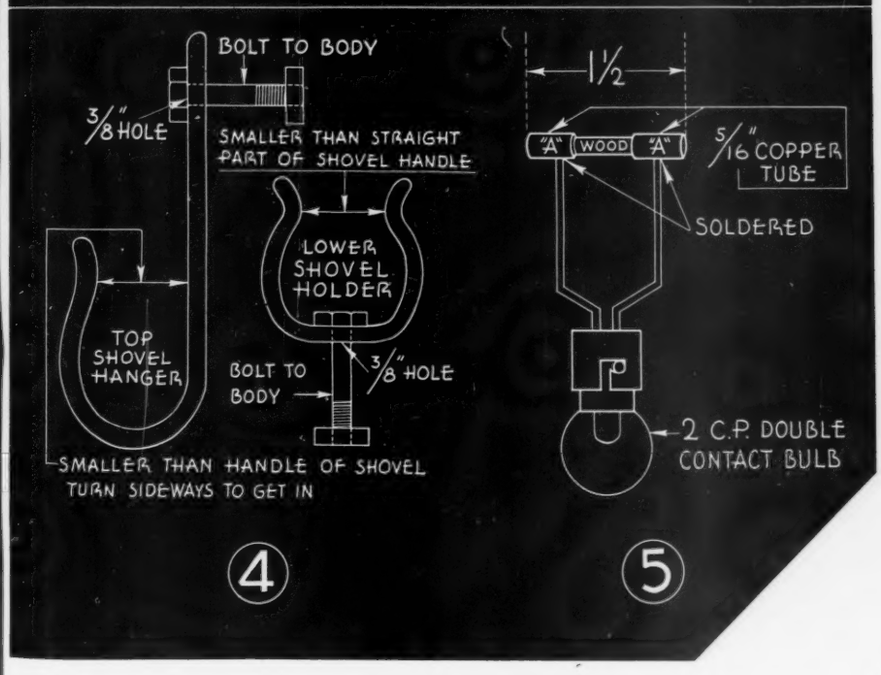
By G. C. Densmore

Leonardi Motor Service, Chicago

In the old type of engine where port plugs are used instead of removable heads and valve guides are installed from the top we have found

Count — No Matter How Rough. We Will Polish Them Up for Publication





their removal to be difficult. To overcome this we have made a tool by the following method.

Saw off the head of an old valve that fits the engine undergoing repairs and weld to the center of the head of a ¾ in. SAE bolt 3 in. long and threaded to 1 in. of the head. Insert welded valve stem down through the guide to be removed. Slip a nut over lower end of valve stem below guide and put valve retaining washer keeper in slot. Then screw spark plug port plug down in place over the bolt that is welded to the valve stem. This bolt will now protrude through the spark plug hole. Place a nut on the bolt and turn down to limit of threads. The bolt will be drawn up through the hole drawing the valve stem guide with it. When the limit of lift is reached with bolt and nut then use wrench for port plug and unscrew the port plug. Sometimes two nuts on the stem will be necessary.

4. Shovel Rack

By Curtis Meredith
New Philadelphia, Ohio

We have developed a shovel rack for coal trucks which makes it unnecessary to use wire, rope or straps.

The top piece is strap iron 1 in. by ⅜ in. by 11 in. bent into a hook. The opening of the hook must be smaller than the shovel handle so that it is possible to remove the shovel only by turning it sidewise. Where it fastens to the body it must be drilled for a ⅜ in. bolt.

The lower holder is made of spring steel 1½ in. by ⅛ in. by 5½ in. and bent so that the opening is smaller than the shank of the shovel handle. It is drilled in the center and fastened to the truck with a ⅜ in. bolt. The shovel is simply forced through the opening.

5. Short Circuit Detector

By E. W. Hoyt
U. S. Mail Garage, Boston, Mass.

This test light was made especially for locating short circuits which will blow fuses but will not show up in wiring. To use, simply remove fuse and press fixture into fuse clips at A. If lamp lights with all switches off, a short is indicated. Simply disconnect wires one at a time until lamp goes out. The line which is shorted is the one lighting the lamp. The device can also be used as a trouble lamp when working under the instrument board where a full size drop cord is impractical.

AFTER HOURS

EDITORIAL COMMENT BY GEORGE T. HOOK, EDITOR

Paper Performance Versus Actual Ability

NOTHING could be more reassuring to the truck industry than the manner in which the U. S. Bureau of Public Roads is attacking the matter of truck performance on grades. Anyone fearful that Federal authorities may impose hasty and ill-advised regulations has but to read the article on page 26 to breathe easier.

That article reports the results of field studies made by Bureau representatives. It relates the manner in which the hill-climbing ability of new and old trucks was observed under actual operating conditions on a 6 per cent grade, and presents the findings. Those findings confer no laurels on the trucks observed, but fortunately Mr. Thompson, who supervised the studies, does not consider them conclusive. He is dissatisfied with them, we gather, from both qualitative and quantitative standpoints. Broadening of the studies to permit conclusions is now being accomplished.

AND yet, it could be said that Mr. Thompson did reach one important conclusion. He found that, in general, trucks seem to perform a lot better on paper than they do on hills. After observing the actual ability of a group of low-mileage trucks on the 6 per cent test grade, he worked out their theoretical ability by accepted formula. He found that actual performance was about two-thirds of the paper performance. By eliminating the known factors he got around to pointing a politely accusing finger at published torque ratings. "It may be suspected that excessive values are used in the numerator for torque," was his gracious way of putting it.

THAT suspicion, it may safely be said, surprises nobody in the operating or manufacturing end of the industry who is well grounded in truck specifications. In many factory sales departments the Battle of Torque Ratings has taken its place in truck history alongside the Battle of Tonnage Ratings and the Battle of Gross Vehicle Weights. The competitive advantage sought in the earlier paper wars is now being pursued with torque ratings. Among engineers the term "sales department torque" describes the condition.

It may also be said safely that no manufacturer publishes a torque rating which is absolutely false. A dynamometer will record the torque he specifies. The only trouble is that in many cases it is the torque reading just short of the stall point, and consequently misleading to the operator in figuring truck performance. It is little wonder that Dr. Thompson found the trucks in operation fell short of paper predictions. The only wonder is that the torque ratings specified were so liberal as to result in a performance loss of 30%.

AS usual it is useless to attempt to place the blame for this condition. It can be spread pretty thinly and shared widely. However, more and more we are being persuaded to the conviction that the industry's chief curse is "doubt." In their turn operators have doubted the recommendations laid down by manufacturers as being too conservative; sales departments were persuaded to doubt the recommendations of their engineers and went liberal, and now operators doubt their recommendations on the score of liberality.

At the bottom of this heap of doubting is the factory engineer, a trained specialist by education and experience, and it might be added, by willful preference. Why, in too many cases, this specialist's guidance is sought but ignored, recommendations are invited but discarded—and all this in matters mechanical—is hardly a credit to the industry. The common complaint leveled at him is that he is too conservative, but maybe the time has come to give him credit for knowing what he is talking about.

Courage in the Capital

OUR thinking on this page last month on the subject of drivers' hours of service seems to have paralleled the motives which guided the motor carrier division of the Interstate Commerce Commission in approving the recommendations of the Examiner who conducted the hearings. The Commission pointed out that there was little definite evidence showing the effect of fatigue on accidents, that a study to determine the effect would be undertaken if Congress would provide the funds, that the regulation of a 60-hr. week and 15-hr. day, with the actual hours worked not to exceed 12 per day, was a beginning, and that "these preliminary regulations will be revised if and when information is obtained which shows need therefor."

It was inevitable that President Green, of the A. F. of L., should toast the I.C.C. with a bitter potion. "This action," he said, "will leave an indelible blot on the otherwise notable record established by the I.C.C. of economic statesmanship and social vision." And he asked that the case be reopened and reconsidered. Commissioner Eastman answered him that all he had to do was petition for rehearing by the Commission as a whole.

What good this would do Mr. Green, in the absence of new evidence, it is difficult to perceive. Maybe he was just talking for publication.

EARS TO THE GROUND

Hug Lugger Model 16 is a newcomer to the company's line and is first to be powered with a new 468 cu. in. Caterpillar diesel

Air Addiction

Coming right on the heels of the new year when we are still trying to adjust ourselves to 1938 is an air-cooled, 4-cylinder horizontal-opposed engine of 150 cu. in. Air Cooled Motors Corp., sponsoring this 60 hp. contribution to C. O. E. trucks, promises production within a month.

Appearance Addition

Our agent in charge of following designers around reports that one of the low-priced passenger cars popular in fleets is to get a new frontal appearance almost immediately. He describes the situation as a counter offensive in the battle of grilles.

Diesel Deal

Right through the front door of dynamometer room went a member of this department in company of the man responsible for the development of a new Diesel pump and injector. For a few minutes the pair watched the test of a new unit which had been going on for days and if brought to a successful conclusion, the unit will result in the units being marketed immediately. In addition to engineering features the unit has the maintenance feature of easy substitution of wearing parts.

Converter Cognizance

Right in this same dynamometer room was a fuel oil converter undergoing a few last minor revisions and our man was told to be ready for some startling results when these changes were made.

Transmission Tangent

Shortening up the transmission is a subject which has been intriguing some engineers for some time. As a result a new four-speed transmission for over-the-road trucks will shortly appear with a new reverse gear construction which permits more compact construction of the unit without any sacrifice.

Fuel Flow

If a 50 per cent greater feul pump capacity interests you, this department is informed that such a pump is in existence. An operative, who for years has been known for his caution, reports that he has seen the pump in operation on experimental cars and that it can be used either as a puller or pusher.

Seat Segregation

There seems to be no end to progress. From a surce this department has learned to rely upon comes word that one of the rubber companies now has a process for making pneumatic seat cushions and backs so that the air circulates and thus cools itself to a degree.

Diesel Data

Just to bring you up to date on the compression ignition situation we list the following facts: One large truck manufacturing company has an affiliate starting a tremendous Diesel engine building program involving several truck engines and doubtless will begin to push Diesel engines as soon as production starts. Another large independent exclusive truck maker who has been without a Diesel job up to now will soon announce a Diesel model with an engine other than their own despite the fact that there are Diesel engines in the family.

Critical Comment

This department has spotted an error in this usually perfect magazine of which we are a part. In the Miser Model story on page 18 of the January issue the author of things economical neglected to describe two models of IHC—the D2 and D5—which are definitely of a Scotch nature, an omission which we can best describe as shameful.

Refrigeration Rite

A new self-contained refrigeration unit which hangs underneath truck or trailer body is supposed to do in 15 minutes what most units take 6 or 7 hours to do. The size is 73 in. by 26 in. by 30 in., and we are sending an operative 10 demerits by air mail for concluding his information at that point.

Can it be that Canada is setting the pace in beer delivery? Security Transportation Co. owns the ultra-modern Mack which hauls 500 cartons or 100 half-barrels for Brading Co.

MACK

Announces Two Low-Priced Models in 12,000 Lb. and 14,000 Lb. Gross Ranges

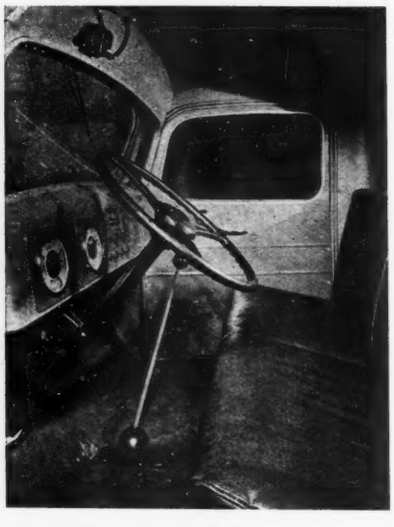
MACK TRUCKS, INC., announces lighter-capacity and lower-priced models, the EE and EF rated at 12,000 and 14,000 lb. gross, respectively. The base price of the EE chassis is $985; of the EF, $1,195.

Incorporating a new and refined streamlined styling, these models present a modern appearance. The de luxe cabs are smoothly streamlined carrying out the flowing lines embodied in the radiator grilles and louvres. Of all-metal construction, the cabs are fitted completely with safety glass and are equipped with such interior fittings as domelight and an attractive indirectly lighted instrument board with clock-type instruments. A feature of the interiors is the use of the same fine quality seat cushions and backs found in the more expensive Mack trucks. Both models have a gasoline tank of 21-gal. capacity mounted under the cab seat.

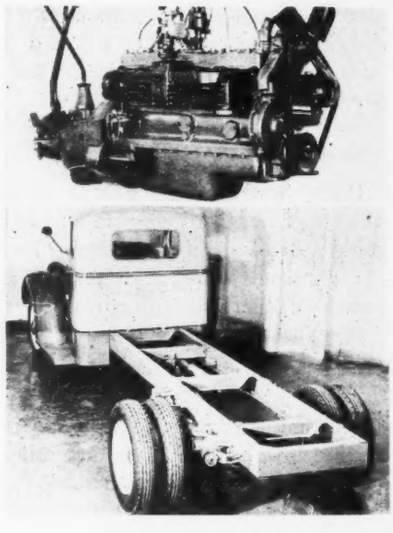
The fenders of the new trucks are

(TURN TO PAGE 50, PLEASE)

Contours of the new Model EE (top) are streamlined and ample provision for driver comfort has been built into the cabs (below)



Below: The 235 cu.-in. engine and frame which is common to both new models. Three of the five cross members are box-girder type



B-K

POWER BRAKING

Controlled Vacuum

The Biggest Safeguard for Trucks

OF all known means of safeguarding the operator's investment in his truck, not even excepting insurance, there is none so big, so reliable in an emergency, as Bendix B-K Controlled Vacuum Power Braking.

No other form of supplementary braking is comparable to genuine Bendix B-K. Sales prove it. Service records prove it. That's why most truck manufacturers list Bendix B-K as standard. It provides every known advantage of Power Braking, including full compliance with the stringent I. C. C. ruling that requires 15-minute automatic lock on trailer brakes in event of a breakaway.

Sold, serviced and installed by thousands of thoroughly competent distributors and dealers throughout the nation.

BENDIX PRODUCTS CORPORATION

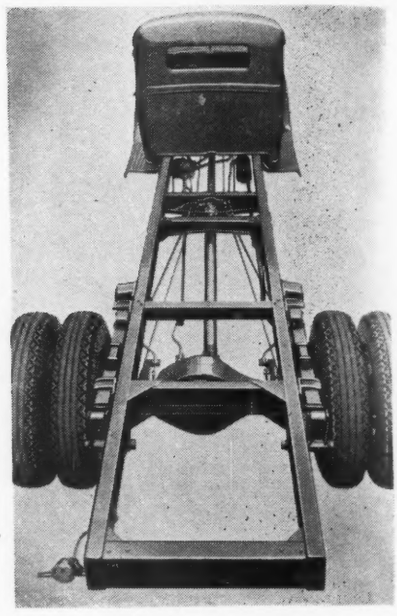
(Subsidiary of Bendix Aviation Corporation)

401 Bendix Drive South Bend, Ind.

BENDIX

TRUCKSTELL

Offers 1938 Ford and Chevrolet Conversions Featuring Capacities Up to 20,000 Pounds



TRUCKSTELL, INC., Cleveland, Ohio, is producing a line of converted Ford and Chevrolet trucks in a design that incorporates two-speed axles. There are four Truckstell-Ford models with gross capacities of 14,500 lb., 16,000 lb., 18,500 lb., and 20,000 lb. Four Truckstell-Chevrolet models have the same gross weights.

All of the models have Eaton two-speed axles of varying capacities. All of the axles however are full-floating and have spiral bevel drive with straddle-mounted pinion. There are a number of optional axle ratios available for each model.

All models have double frames running well under the cab and an extra cross member is provided. Helper springs are provided in all models except those having trailing axles. Brakes in each case are booster actuated. Trailing axles are 3¾ in. by ½ in. wall seamless steel tubing which has been heat-treated.

Truckstell—Chevrolet

Model	Gross Weight	Range of Wheel-bases	Eaton 2-Speed Axle No.	Trailing Axle	Brake Lining Area	Rear Spring Size	Tire Size Front	Tire Size Rear
TRC-250H	14,500	131½–229	1265	No	331	45x2½	7.00/20 32x6	34x7D
TRC-500	16,000	134–231	16000	No	331	45x2½	7.00/20	34x7D
TRC-600	18,500	133–180	17000	No	412	50x3	7.00/20 32x6	8.25/20D
TRC-2X250	20,000	152–178	1265	Yes	511	45x2½	32x6	32x6D

Truckstell—Ford

Model	Gross Weight	Range of Wheel-bases	Eaton 2-Speed Axle No.	Trailing Axle	Brake Lining Area	Rear Spring Size	Tire Size Front	Tire Size Rear
TRF-250H	14,500	131½–217	1250	No	359	50x2½	7.00/20 32x6	34x7D
TRF-500	16,000	135–231	16000	No	389	50x2½	7.00/20	34x7D
TRF-600	18,500	134½–170½	17000	No	451	50x3	7.00/20 32x6	8.25/20D
TRF-2X250	20,000	152–178	1250	Yes	539	50x2½	32x6	32x6D

New Truck Registrations by Makes by Months*

	Autocar	Brock-way	Chev-rolet	Diamond T	Dodge	Federal	Ford	G.M.C.	Interna-tional	Mack	Reo	Sterling	Stewart	Stude-baker	White-Indiana	Miscel-laneous	Total
January.....1937	130	102	14,362	863	3,764	207	16,544	2,820	6,244	389	354	29	92	169	592	948	47,609
January.....1936	75	94	15,124	495	6,207	223	14,606	428	4,743	90	339	8	85	143	493	607	43,760
February.....1937	112	115	7,939	602	5,043	206	16,460	3,051	5,256	364	317	28	101	222	550	1,451	41,815
February.....1936	57	88	14,978	510	5,556	170	12,226	758	4,365	107	217	4	62	134	408	661	40,301
March.....1937	179	140	17,164	849	6,498	241	20,839	4,201	5,820	480	495	23	149	478	655	2,080	60,291
March.....1936	88	127	19,511	634	6,751	205	16,168	1,551	5,395	184	264	17	73	221	477	762	52,428
April.....1937	228	184	22,707	916	4,090	258	22,897	4,815	6,894	594	394	47	121	725	819	2,193	67,882
April.....1936	121	179	23,323	784	8,817	271	18,493	2,733	7,308	289	379	21	112	327	700	1,099	64,956
May.....1937	198	183	20,772	867	6,045	301	20,452	4,536	7,279	588	424	28	120	720	795	2,549	65,857
May.....1936	109	168	21,443	754	8,507	275	17,971	3,045	6,704	440	399	16	116	358	719	1,159	62,183
June.....1937	199	139	17,177	685	6,191	226	17,760	4,146	6,925	540	454	33	94	651	678	2,728	58,626
June.....1936	96	137	19,045	660	7,777	287	16,930	2,820	6,151	427	325	28	113	320	599	1,136	56,851
July.....1937	281	152	17,011	719	6,333	219	18,262	4,088	7,348	607	445	34	104	587	654	2,607	59,451
July.....1936	137	207	20,769	786	7,855	268	18,012	3,363	6,928	483	366	22	131	350	729	1,029	61,435
August.....1937	171	134	18,806	627	6,665	158	15,859	4,394	7,446	421	317	14	87	541	508	2,533	58,681
August.....1936	139	163	20,356	759	8,071	242	15,954	2,977	6,115	426	313	39	124	314	621	915	57,528
September.....1937	183	94	16,252	623	6,346	128	15,791	3,496	6,460	406	249	31	75	350	502	2,130	53,116
September.....1936	122	138	15,177	795	7,788	240	16,613	3,112	6,514	418	515	15	139	317	634	741	53,278
October.....1937	194	129	10,511	474	5,042	163	10,103	3,165	6,367	432	275	20	79	261	657	1,561	39,433
October.....1936	159	155	7,752	959	7,389	255	11,363	2,736	6,529	506	516	36	133	343	803	680	40,314
November.....1937	149	119	8,191	383	3,807	121	4,508	2,281	4,948	342	192	14	66	179	480	1,144	26,924
November.....1936	180	134	9,925	663	5,218	228	5,050	1,241	4,773	396	247	34	98	199	649	576	29,611
Eleven Mos.....1937	2,024	1,491	170,892	7,608	59,824	2,228	179,475	40,993	70,987	5,163	3,916	299	1,088	4,883	6,890	21,924	579,685
Eleven Mos.....1936	1,283	1,590	187,403	7,799	79,936	2,664	163,386	24,764	65,525	3,766	3,880	240	1,188	3,026	8,832	9,385	562,645
% Change...11 Mos.	+58	−6	−9	−2	−25	−16	+10	+66	+8	+37	+1	+24	−8	+61	+1	+134	+3

* Does not include returns from Wisconsin since June, 1937. All data are on a comparable basis.

MEET A MAN...

...with 8 tons off his mind

THIS transit company president* was worried.

He was concerned about maintenance costs—and in particular, about an 8-ton job that threatened a serious dent in his cost sheets.

Then he decided to try something radical. He started to lubricate his fleet with the finest motor oil that money can buy—Gulfpride. And things began to happen . . .

That 8-ton truck, lubricated with Gulfpride Motor Oil, actually operated 78,000 miles of heavy duty before a mechanic ever laid a hand to it—and then for only a simple valve grind job!

In addition to this, he literally slashed his oil bills even though he was paying more per gallon for his oil.

Amazing? . . . Certainly! But operators of truck, bus and passenger fleets are constantly being amazed at the remarkable performance of Gulfpride.

For Gulfpride is refined by Gulf's exclusive *Alchlor Process* that continues refining where other processes stop. This process takes finished 100% Pennsylvania Oil and *further* refines it—removing, by actual test, as much as 20% *more* sludge and waste.

Why not try Gulfpride in your *own* fleet—and take your *own* verdict on its economy!

Gulf Oil Corporation—Gulf Refining Company, Pittsburgh, Pennsylvania.

**A true story from the files of the Gulf Oil Corporation. Name on request.*

Gulfpride

The world's finest motor oil

100% PURE PENNSYLVANIA...IN SEALED CANS ONLY

GULF

When writing to advertisers please mention Commercial Car Journal

WHITE

Model 802 is a New 1½ to 3 Ton C.O.E.

The new cab-over-engine White, Model 802, is particularly adapted to city delivery. It has a 36-ft. turning circle

A LIGHT-DUTY cab-over-engine truck, model 802, designed specifically for service in city operations, has been announced by The White Motor Co.

It should appeal particularly to bottlers, packers, grocers, coal haulers and department store operators.

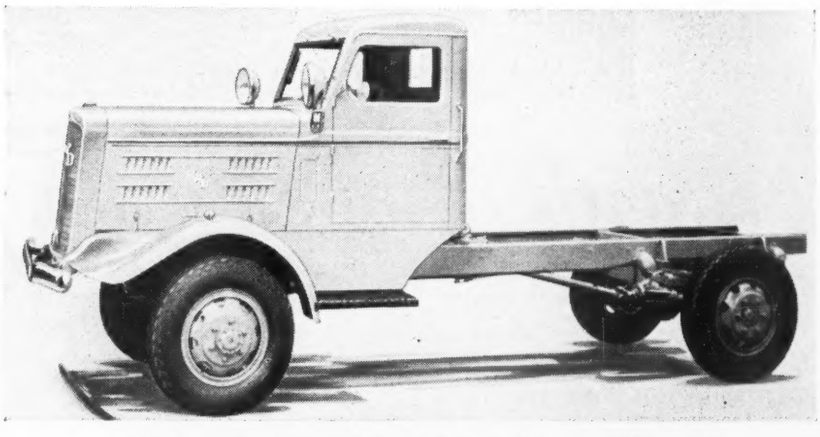
The new c.o.e. unit has a 36-ft. turning circle, an overall length of only 17 ft. 7 in., wheelbases ranging from 95 in. to 173 in., and approximately one-third front, two-thirds rear weight distribution. Its six-cylinder engine of 221 cu. in. displacement, develops 145 lb.-ft. at 1000 r.p.m. With a bore and stroke of 3⅜ x 4¼, the engine is equipped with a Tocco-hardened seven-bearing steel crankshaft. In addition, the new model has as standard equipment a heavy-duty, dry disc clutch, a four-speed transmission, single reduction rear axle, and 6.00-20 tires, single front, dual rear.

Allowing a perfectly flat floor, the engine is mounted entirely beneath the floor of the cab. For instant access to the engine, a mechanic need only lift the cab floor boards.

Purposely built low to aid maneuverability and facilitate load handling, floor height is only 35 in.

FWD

Model HG Is Designed For Maintenance Duty



A 23-in. road clearance is provided in the new FWD Model HG. Its five-speed transmission combines power and speed

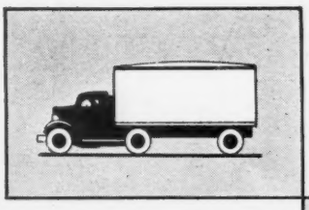
MODEL HG is a newcomer from the Four Wheel Drive Auto Co. Streamlined within the bounds of of practicability, it is built to withstand the demands of highway maintenance and snow removel operations. The patented FWD transfer case has been mounted to provide an under clearance of 23 in. which permits installation of an underbody scraper or other equipment.

Standard wheel base is 156 in. The 6-cylinder Waukesha 6-MK engine has a bore and stroke of 4⅛ x 4¾ in. and a displacement of 381 cu. in. It develops 85 hp. at 2500 r.p.m. and has a torque of 256 lb. ft.

The chassis weight including cab is 6350 lb. A five-speed transmission is used and with standard tires and gearing a road speed of 37.4 m.p.h. can be attained with engine governed at 2500 r.p.m., according to FWD engineers.

Standard colors are chrome, orange and black, with other colors at the option of the purchaser.

THE QUICKEST WAY TO INCREASE *Truck Profits* IS TO REDUCE *tire expense*

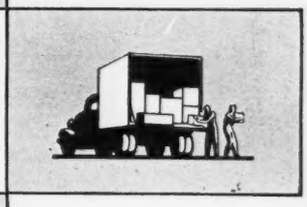


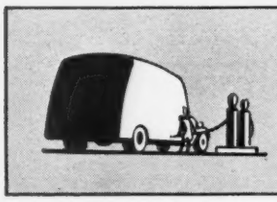
1

Every one of your trucks must be regarded as a profit producer. The profit consists of whatever part of your dollar is left after all expenses are paid.

2

Labor, the biggest item, is fixed. Nothing much can be done about it.



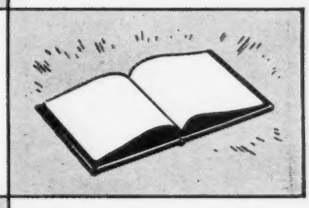


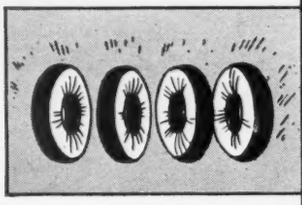
3

Gasoline and oil take a big slice of your dollar and the possibility of reduction is small.

4

Depreciation and mechanical maintenance take another big slice of your dollar that offers small opportunity for improvement.



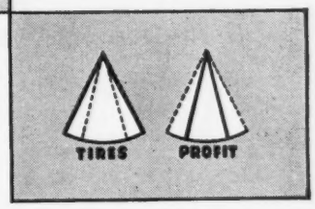


5

Tires take their slice and the balance, if any, is profit.

6

Of all the items that enter into expense, the tire item is the most flexible. It is the *only one* that can easily and quickly be reduced and as it is reduced the profit slice of your dollar is increased.



● General Truck Tires have always been built stronger . . . to do their work better . . . deliver greater mileage and haul more payload.

It costs more to build a General, but thousands of truck operators know it costs less to use Generals.

See your General Tire dealer. He may be able to reduce your tire costs materially.

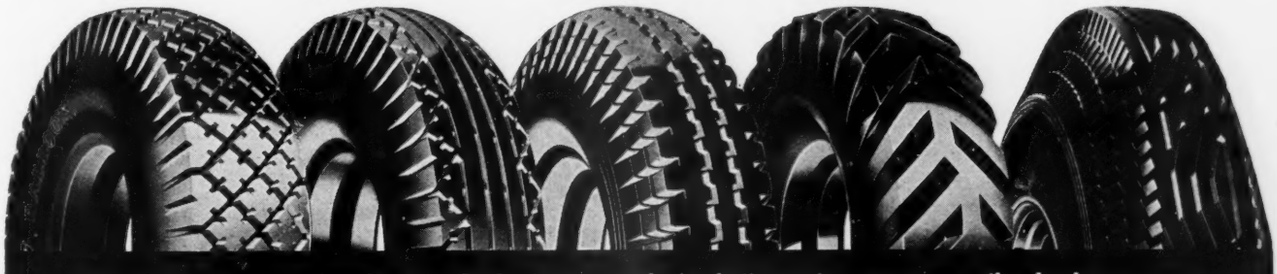
THE GENERAL TIRE & RUBBER CO. • AKRON, O.

In Canada—The General Tire and Rubber Co. of Canada, Limited, Toronto, Ontario.

● How can you decrease tire costs? Use the best tires you can buy and take good care of them.

And what is "best"? To General it means *physical carcass strength* to meet the battering of the road and to carry heavy loads. *Elasticity . . . flexibility . . . smooth action . . .* to offset heat that weakens and ultimately blows out your tires and increases tire expense at the sacrifice of profit. *Resistance* to wear that scrapes off the tread of your tires and needlessly steals part of your profit.

THE TRACTION TREAD | THE HIGHWAY | THE COMMERCIAL DELIVERY | THE CLEATED TRACTOR | THE JUMBO



One of the most complete lines in the business—each tire built to give you more miles for less money

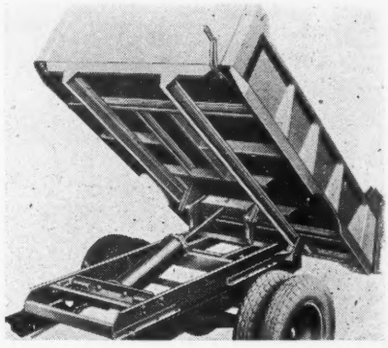
GENERAL TRUCK TIRES

When writing to advertisers please mention Commercial Car Journal

NEW PRODUCTS ON PARADE

New Anthony "OK" Hoist

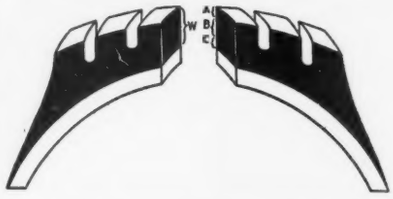
Anthony Co., Inc., Streator, Ill has introduced a new Hydraulic Hoist employing the advantages of both the arm lift and pusher type of conventional lifting mechanisms. The two arm lifting mechanism, which compounds the power developed in the pump and cylinder is employed in starting the load and carrying it up to the first 25 deg. From that point on to the full dumping angle of 50 deg. the straight pusher-type principle is used except that pushing stress or strain is distributed throughout the longitudinal structural members of the tipping frame. The combination of the two principles gives power where needed and speed where needed.



This new hoist designed and manufactured for dump bodies 7 to 8 ft. in length with capacities from 1½ to 3 cu. yd., permits a much lower mounting on the chassis frame than that conventionally employed. Distance between the top of the chassis frame to the bottom of box is 11 in., a reduction of about 21 per cent.

Webster Retreading

To overcome difficulties sometimes experienced in tire retreading Webster Rubber Co., Warren, Ohio, has developed a new rubber of unusual toughness and resistance to road abrasion, which may be applied by the Webster-izing process. A feature is the uniform cure of the rubber throughout the entire tread area W (see



cut). The dangers of overcure at outside area A, of only a small normal-cure area, B, or undercure at C are reduced to a minimum. Full details may be obtained from the maker.

Goodyear Airfoam Cushion

Stressing rider comfort, greater safety and greater economy due to the virtual elimination of repair and replacement charges, Goodyear Airfoam, product of the Goodyear Tire & Rubber Co. is entering the truck and bus seat field on a large scale. Airfoam is a 95 per cent pure latex product. The liquid rubber is beaten into a froth containing millions of interconnected air cells, then cured in molds designed to fit the needs of truck and bus seat manufacturers. Airfoam also is available in mattress form suitable for sleeper cab accommodations.

Du Pont Has New Wax Polish

A new liquid preparation known as "Speedy Wax," which cleans and waxes a car finish in one operation has been announced by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

It is available in gallon cans.

(CONTINUED ON PAGE 44)

Truck Numbers
TO OUR DRIVERS
NO ARGUMENTS IN
This Room
The facts are on the chart
No Misunderstandings or Disputes are Possible Now!
● How do you manage your trucks? The Easiest Way is also the most effective: "Let the trucks speak for themselves." Let each truck "write" its own story of the day's work; and then hang the story (the chart) on a peg on the wall, up where everybody can see it.
These charts came out of Servis Recorders—they show just when each truck was running, when it left the garage, how long it waited for the load, how long it stood idle, when it quit—in fact the whole story of the day's work.
That information assures a trucking system where nobody argues, where nobody is suspicious of anybody else, where everyone is treated fairly and everyone is treated alike. It pays. Send for booklet—"Ten Ways of Getting More Work Out of Motor Trucks."
THE SERVICE RECORDER COMPANY
1422 Euclid Avenue • Cleveland, Ohio
Branches in Principal Cities
Here's a Stop of 2 Hours
POINTS OUT ALL DELAYS
The Servis Recorder
Tells Every Move Your Truck Makes

CHEVROLET TRUCKS

CHEVROLET

BUILT TO GIVE MORE MILES OF SERVICE AT LOWEST COST PER MILE

Chevrolet's great line of 1938 trucks . . . six load-capacity sizes and five wheelbase lengths . . . offer big money-saving economy to truck fleets engaged in all types of haulage and delivery. Savings begin with Chevrolet's low first cost and continue with every mile—from Chevrolet's thrifty gas- and oil-saving Valve-in-Head Truck Engine—from powerful, longer-wearing Perfected Hydraulic Truck Brakes—from low maintenance expense resulting from sturdy, rugged construction throughout. Investigate and compare these costs. Save with Chevrolet trucks.

General Motors Instalment Plan—Convenient, Economical Monthly Payments. A General Motors Value.

SIX CHASSIS MODELS
Light Delivery
½, ¾, 1, 1½ Tons
(131½- and 157-inch wheelbases)

FIVE WHEELBASE LENGTHS
112-inch to 157-inch

FAMOUS VALVE-IN-HEAD TRUCK ENGINE

PERFECTED HYDRAULIC TRUCK BRAKES

*FULL-FLOATING REAR AXLE

EXTRA-STRENGTH FRAME

*FOUR-SPEED TRANSMISSION

MODERN STYLING

*1½-Ton Models

"THE THRIFT-CARRIERS FOR THE NATION"

CHEVROLET MOTOR DIVISION, *General Motors Sales Corporation*, DETROIT, MICH.

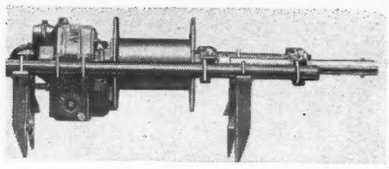
When writing to advertisers please mention Commercial Car Journal

NEW PRODUCTS

(CONTINUED FROM PAGE 42)

Vacuum-Controlled Winch

A new universal type winch featuring a dash-operated vacuum control has been introduced by the American Coach & Body Co., 9503 Woodland Ave., Cleveland, Ohio. The Vacuum control is operated by a single lever on the dash, disengages the clutch and applies the free drum brake in one operation. Pressure may be adjusted to any desired amount. Known as series 75 it is adaptable to any frame width and may be mounted entirely above the frame or at a height to provide desired position

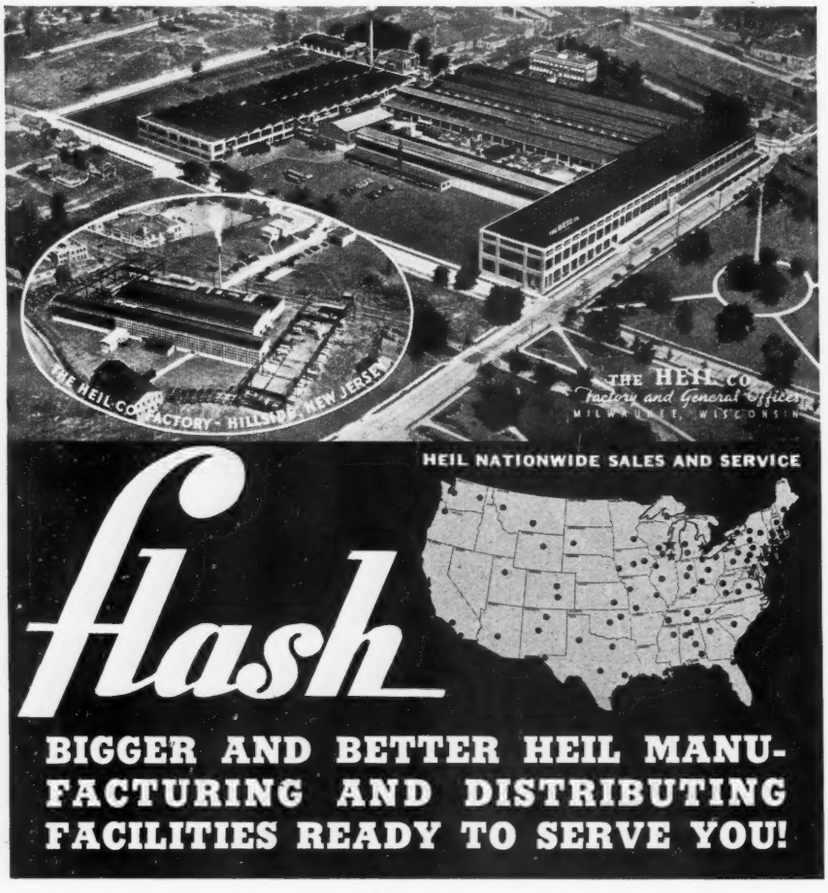


of drum top to floor. Tubular cross supports hold the winch in accurate alignment.

Bee-Line Box Girder Tool

The new Bee-Line Box Girder Clamps grip the bent frame with a positive clamping action that cannot damage the frame in any manner, enabling you to quickly straighten Chevrolet frames upward, downward, sideward, twists, Diamond Pull. It is possible to stretch the side members to their normal lengths, and at the same time remove various bends and dents that were heretofore difficult and costly operations. These tools can be used on any Bee-Line Chassis Aligner. Literature is available by writing to Bee-Line Co., Davenport, Iowa.

(MORE NEW PRODUCTS ON PAGE 97)


THE HEIL CO. FACTORY - HILLSIDE, NEW JERSEY
THE HEIL CO.
Factory and General Offices
MILWAUKEE, WISCONSIN
HEIL NATIONWIDE SALES AND SERVICE
flash
BIGGER AND BETTER HEIL MANUFACTURING AND DISTRIBUTING FACILITIES READY TO SERVE YOU!

● Two, modern, completely equipped Heil factories and a nationwide network of reliable Heil distributors are at your service to provide all of your requirements for hydraulic dump units, compartment truck tanks and snow plows . . . Resolve now to buy dependable Heil Hoists, bodies and tanks . . . Consult your nearest Heil distributor or write for free Heil literature . . Address:

THE HEIL CO.

GENERAL OFFICES: MILWAUKEE, WISCONSIN

Factories: MILWAUKEE, WISCONSIN HILLSIDE, NEW JERSEY

Branches and Distributors Everywhere

LITERATURE FREE

Note: The following items may be obtained by writing direct to the manufacturer.

Insulation Informer

Dry-Zero Corp., Merchandise Mart, Chicago, has a new booklet, "Fundamentals of Good Refrigerator Insulation." While subject matter is technical, the booklet has been written for non-technical men.

Brake Service Chart

The 1938 Grey-Rock chart contains full brake data for passenger cars and trucks and is presented in a new form, extremely easy to use. By use of a metal slide at the top the correct chart is automatically revealed. Available through local Grey-Rock jobbers.

Retread Developments

Webster Rubber Co., Warren, Ohio, has recently issued two booklets entitled "Plain Facts on Retreading" and "Why Websterizing?" The former contains information on advantages and dangers of retreading, the latter a description of the company's newly developed retreading process.

Ford Lube Chart

A new nine-color lubrication chart showing the 25 points of the Ford car which require periodic lubrication is available to fleet owners by writing the nearest Ford Branch, service department.

Axle Data

The Detroit - Compensating Axle, Corp., 60 Broadway, New York, has an informative booklet illustrating tire and power saving advantages of the company's latest type trailer axle.

Watson Ratio Guide

A bulletin containing tables of gear ratios and speeds of auxiliary transmission application to all trucks has been prepared by H. S. Watson Co., 1145 Harrison St., San Francisco.

Utility Bodies

The Baker-Raulang Co., W. 30th St., Cleveland, Ohio, has completed an entirely new catalog showing the company's line of utility bodies, trailers and equipment.

Trailer Features

Fruehauf Trailer Co., 10960 Harper Ave., Detroit, has an interesting folder, "Fruehauf Feature Parade," describing and illustrating salient trailer features.

"BLIND DRIVING"

"Blind driving" is operating a truck by guess, feel, or *sound* of engine speed. It's responsible for much engine trouble, needless maintenance expense and engine overhauls.

The usual 4 or 5 transmission speeds cause blind driving. With limited transmission speeds it's impossible to make fast road time with proper engine speed under all conditions of loads, roads and grades.

Now every engine has a certain range of speed where it operates at maximum efficiency and least wear and tear. And it has been definitely proven by test and experience in large fleets that fuel consumption can be reduced as much as 30% and overhauls as much as 50% simply by operating engines in that proper speed range.

Equip your truck with a Watson-Brown-Lipe and prevent Blind Driving. A Watson-Brown-Lipe provides the necessary gears to keep the engine operating in the proper speed range, regardless of the load, road or grade.

20% LESS FUEL

25% FEWER R.P.M.'S

52% MORE POWER

"Your Truck Needs More Gears"

ASK FOR BULLETIN

Watson-Brown-Lipe

AUXILIARY TRANSMISSIONS

H. S. WATSON CO. • SAN FRANCISCO AND TOLEDO

DEALERS

Atlanta, Ga., A. C. Miller Company
Billings, Mont., Hines Motor Supply Co.
Birmingham, Ala., Alabama Truck Equip. Co.
Boise, Idaho, The Olson Mfg. Co.
Bozeman, Mont., Hines Motor Supply Co.
Buffalo, N. Y., Truck Equip. Co., Inc.
Butte, Mont., Anderson Motor Co., Inc.
Cambridge, O., Allison Body Sales Co.
Charleston, W. Va., Baker Equip. Engrg. Co.
Charlotte, N. C., Baker Equip. Engrg. Co.
Chattanooga, Tenn., A. Fassnacht & Sons
Chicago, Ill., Erlinder-Platt Sales Corp.
Chicago, Ill., Truck Equip. Co., Inc.
Cleveland, O., L. O. Halverstadt, Inc.
Columbus, O., Hercules Body Sales Co.
Dallas, Tex., Bull-Stewart Equip. Co.
Denver, Colo., Timpte Bros.
Detroit, Mich., H & H Wheel Service, Inc.
El Paso, Tex., Watkins Motor Co., Inc.
Ft. Wayne, Ind., Allied Truck Equip. Co.
Ft. Worth, Tex., Hobbs Mfg. Co.
Grand Rapids, Mich., Kramer & Peters Brake Co., Inc.
Great Falls, Mont., Hines Motor Sup. Co.
Havre, Mont., Hines Motor Supply Co.
Honolulu, T. H., Continental Trailer & Equip. Co.
Houston, Tex., Hobbs Mfg. Co.
Idaho Falls, Idaho, E. N. Musselman & Son
Indianapolis, Ind., Allied Truck Equip. Co.
Jackson, Mich., Truck Equip. & Trailer Sales
Kalamazoo, Mich., Neil's Automotive Service
Kansas City, Mo., Keystone Trailer & Equip. Co.
Lewiston, Mont., Hines Motor Supply Co.
Long Island City, N. Y., Truck Equip. Co., Inc.
Los Angeles, Calif., Lambert Co., Ltd.
Louisville, Ky., Dealers Truck Equip. Co.
Memphis, Tenn., Carter Mfg. Co.
Mexico City, Mex., Auto Productos, S. A.
Miles City, Mont., Hines Motor Supply Co.
Minneapolis, Minn., Chas. Olson & Sons, Inc.
Montreal, Canada, Cusson Bros., Ltd.
Newark, N. J., Wheels, Inc.
New Haven, Conn., Conn. Wheel & Rim Co.
New Orleans, La., Thomson Mach. Co.
New York, N. Y., Imperial Export Co.
New York, N. Y., Wheels, Inc.
Omaha, Neb., Badger Body Mfg. Co.
Philadelphia, Pa., Truck Equip. Co., Inc.
Phoenix, Ariz., Welch Mfg. Co.
Pittsburgh, Pa., The Schnabel Company
Portland, Ore., Wheel & Rim Serv., Inc.
Reno, Nev., Allied Equipment, Inc.
Richmond, Va., Baker Equip. Engrg. Co.
Rochester, N. Y., Truck Equip. Co., Inc.
Salt Lake City, Utah, Koepsel & Love
Seattle, Wash., A. D. Blackler Co.
Shelby, Mont., Hines Motor Supply Co.
Shreveport, La., R. F. Kayser Trailer Co.
Spokane, Wash., Hotchkiss-Gilkey Co.
St. Louis, Mo., McCabe-Powers Auto Body Co.
Syracuse, N. Y., Truck Equip. Co., Inc.
Toledo, O., Turner Brake Service Co.
Toronto, Can., Wheel & Rim Co. of Canada
Tulsa, Okla., Braden Winch Co.
Washington, D. C., S. J. Meeks' Son

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NEWS SUMMARY

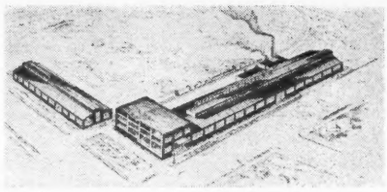
November Truck Output More Than Double October Figure

Final figures for truck production in the United States and Canada during November totaled 67,516 units, a gain of 112 per cent over the October output of 31,939 units. Compared with November, 1936, when 54,628 units were produced, the gain was 24 per cent. For the first 11 months of 1937 the total output was 859,904 units, compared with 740,741 in the same 1936 period, a 16 per cent gain.

For November new truck registration figures see table on page 38.

General Motors Diesels

General Motors has opened an engineering laboratory and factory in Detroit to manufacture diesel engines of from 22 to 160 h.p. It is the largest and most completely equipped test laboratory in the world for diesel work. The engines built in the Detroit plant will be 1, 3, 4 and 6-cylinder models with a high degree of interchangeability of parts. All will be two-cycle engines and all will have the same bore and stroke, using the same piston, connecting rod and bearing assemblies. Weight and size have been importantly reduced.



Marmon Herrington's new plant at W. Washington and Harding Sts., Indianapolis, includes a 16-acre tract for future expansion

First Blanket Driver Contract

Uninterrupted motor truck transportation, free from labor strife, has been guaranteed in Philadelphia for at least one year by the signing of the first blanket labor contract in the trucking industry. The contract, which expires Dec. 31, 1938, covers 180 operators and their 7000 drivers and helpers.

Signatories to the new labor pact, hailed as a model for adoption elsewhere, are the Philadelphia Chapter, Pennsylvania Motor Truck Association and Local 107, International Brotherhood of Teamsters, Chauffeurs and Helpers of America. Under the contract, the chapter's labor relation division of 10 men, headed by James P. Clark, president of Horlacher Delivery Service, Inc., will mediate labor grievances.

If mediation fails, disputes will be referred to an impartial board of three with the decisions final and binding. The contract prohibits sympathy strikes or walkouts unless sanctioned by the Teamsters Joint Council.

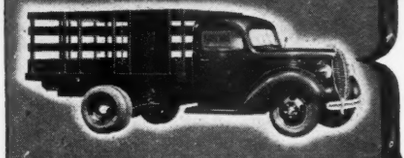
R. W. Ruddon, recently named president of the Federal Motor Truck Co. to succeed M. L. Pulcher, who has retired. Mr. Ruddon has been with the company for 24 years and has occupied executive posts in all phases of the company's business

Reo Personnel Changes

Rowland Campbell, of New York, has been elected chairman of the board of the Reo Motor Car Co. to succeed R. E. Olds. Frank N. Morgan, formerly assistant to the president, has been named general sales manager to succeed William G. Poxson, who now heads the export division. A. L. Struble has been promoted to assistant general sales manager, and D. C. Street becomes domestic sales manager, succeeding Charles Boutelle, resigned. D. C. Wheeler and H. P. Miller have been made vice-presidents of Reo Sales Corp., in charge of western and eastern zones, respectively.

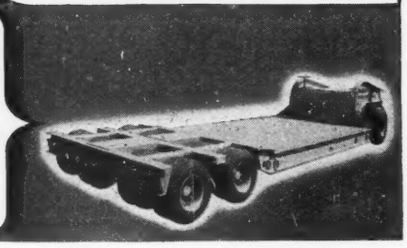
Midland Stops Them All!

A complete range of sizes available in both Air and Vacuum Power Brakes for every size and type of vehicle « « «



FROM THIS 1½ Ton DELIVERY

TO THIS 70 Ton TRAILER



No matter what size equipment is in your fleet, there is a type of Midland power brake to serve you better. Proof that this is true is shown by the adoption of Midland power brake equipment by the nation's largest fleet owners—by its selection as *standard factory equipment,* by 32 manufacturers of trucks, tractors, and trailers. See your nearest Midland distributor today—or write us for complete information and prices. THE MIDLAND STEEL PRODUCTS CO., 10605 Madison Ave., Cleveland, Ohio.

BE SURE YOU GET ALL THESE FEATURES

1. Quickly and easily installed—simple instructions included
2. Simple in design—rugged in construction
3. Fully complies with all city and state laws
4. Nation-wide Midland service organization
5. Factory rebuilt exchange plan

MIDLAND POWER BRAKE EQUIPMENT

MIDLAND (CHRISTENSEN) Power Brakes

SAFETY POWER

When SAND gives your wheels the "Run-Around"—*keep going* with

MARMON-HERRINGTON *All-Wheel-Drive* FORD V-8

"A GREAT TRUCK MADE EVEN GREATER"

It takes traction, even more than power, to prevent wheels from spinning, and to keep trucks moving in sand, mud or snow. You may have plenty of power in your engine, but it doesn't mean a thing unless that power is applied where it can do the most good—*at all four, or all six wheels.* All pulling and pushing together.

Marmon-Herrington *All-Wheel-Drive* Fords have *the traction,* as well as the necessary power and stamina to take heavy loads through loose sand, mud and snow, *wherever you want to go.* Hills and grades that would halt an ordinary truck are "easy going" for an all-wheel-drive Marmon-Herrington. Faster, safer travel, on and off the highway, is the result.

Words fail. The only way to appreciate the truly amazing performance of these low-cost all-wheel-drive trucks is to see them in action. Or better yet, to get behind the wheel, and actually *feel* all the wheels take hold. In no other way can the sense of safety and invincibility you will experience in a Marmon-Herrington *All-Wheel-Drive* Ford be realized.

There's exactly what you need in a Marmon-Herrington *All-Wheel-Drive* Ford—at *less than half what you would expect to pay* for an all-wheel-drive truck. We convert all 1938 Ford trucks commercial and passenger cars to all-wheel-drive, build more than 30 extra heavy duty all-wheel-drive trucks, and manufacture the speedy, economical Marmon-Herrington Track-Laying Tractor that develops speeds of 30 m. p. h., or better and travels four to five miles on a gallon of gasoline. It's a sensation.

Write for literature on any or all of these units, and the name of your nearest dealer.

MARMON-HERRINGTON CO., Inc., *Factory and General Office,* **Indianapolis, Ind., U. S. A.**

World's Leading All-Wheel-Drive Engineers and Manufacturers

When writing to advertisers please mention Commercial Car Journal

NEWS

(CONTINUED FROM PAGE 46)

Indiana Law on Trial

The Richmond Baking Co., and Kenneth Foster, Indianapolis trucking operator, have brought suit in Indianapolis Superior Court to test the constitutionality of the new Indiana truck weight tax law, originally effective Jan. 1, 1938, but which will not now become effective until March 1 upon declaration of a moratorium on collection of the tax by Governor Townsend.

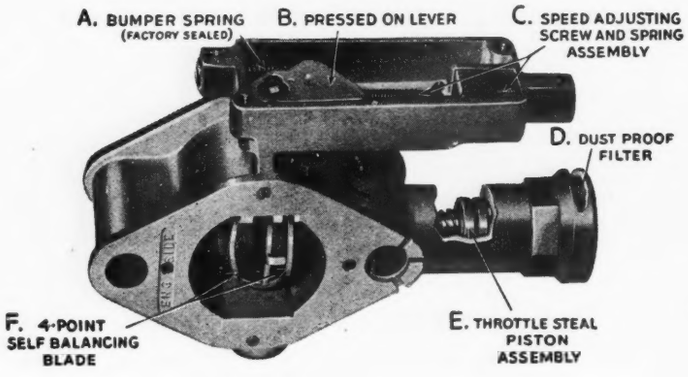
Council for the baking company contended the new law is a revenue producing measure and designated it as class legislation, and that its enforcement would create a highway hazard. A. J. Stevenson, assistant attorney general, contended that the state had a right to place an additional tax on trucks which did not apply to passenger cars or automobile trailers.

The factor of safety hazard, it was pointed out, consists of the encouragement given to truck operators to use smaller and lighter tires and axles than the size of their trucks warrant, as the amount of the tax is based on tire and axle size and weight.

A concrete example of this claim was observed last month. A truck driver making the rural districts regularly, told of having completed a truck trade-in, involving a new chassis, but retaining the old body. This trucker said that he specified a size smaller on his tires, which brought the new weight tax down to a point low enough to pay for his entire state license. In other words, the difference between the weight tax on the tires he selected, and the size he should use according to the weight of his truck and average load, was sufficiently large to pay the total truck license plus the tax.

LEIBING GOVERNORS

USED AS STANDARD EQUIPMENT


A. BUMPER SPRING (FACTORY SEALED)
B. PRESSED ON LEVER
C. SPEED ADJUSTING SCREW AND SPRING ASSEMBLY
D. DUST PROOF FILTER
F. 4-POINT SELF BALANCING BLADE
E. THROTTLE STEAL PISTON ASSEMBLY

The above cutaway view illustrates the simplicity of the *Leibing Governor* and the few moving parts which combine to insure long life and satisfactory operation.

Performance and stability have not been sacrificed to reduce costs. The increased thickness of all Leibing casting wall dimensions prevents warpage. Integral parts are the same high standard as always. To obtain these exclusive features specify *Leibing Governors*.

Exchange and replacement *Leibing Governors* are new and built to customer's specifications. Each unit packed individually with accessories. These Governors can be purchased through your local truck dealer or distributor at special trade-in prices.

★

For Further Information Write

LEIBING AUTOMOTIVE DEVICES, INC.

DETROIT, MICHIGAN

APPOINTMENTS

Delmar G. Roos, former chief engineer of the Studebaker Corp., has been named vice-president and chief engineer of Willys-Overland Motors, Inc., according to an announcement by David R. Wilson, president. During the past year Mr. Roos has been consulting engineer for Humber, Ltd., Coventry, England.

W. J. Hollinger, formerly manager of the Poughkeepsie Mack truck branch is now Akron branch manager.

Hoof Products Co., Chicago, Ill., maker of Hoof governors, has added the following sales representatives: J. A. Murray, of Baltimore, Md.; J. M. Ravenna, Houston, Tex.; Ollie Thomson and three associates, Jack Mitchell of Portland, J. T. Moultrup, San Gabriel, Calif., and Thomson Junior; Frank L. Ross, Vancouver, B. C., and Vic Mathewson, of Toronto.

Len Gilbert who was named recently as manager of the White Motor Co.'s Chicago branch. Since 1935 he has been sales manager of the company's Chicago sales territory

Harry W. Kaley has been appointed general sales manager of the Ethyl Gasoline Corp. Mr. Kaley has been connected with the Corporation for 11 years.

L. W. Hully, formerly manager of the Indianapolis branch, has been placed in charge of the sale of used trucks through dealers and company-owned retail outlets of the International Harvester Co.

C. W. Dempesy, who came with the Liquid Carbonic Corp. in 1921 as an assistant cost man in the comptroller's department, has been elected vice-president of the corporation by the Board of Directors. H. L. Cook, formerly eastern district sales manager of the Corporation, has been appointed assistant general sales manager, removing his headquarters from New York to Chicago.

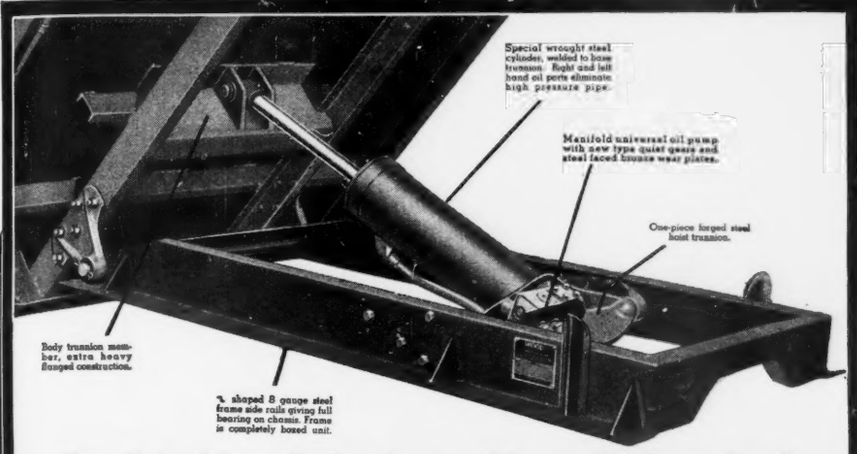
C. M. Hogarth, manager of the southern district for Autocar Trucks, has announced the appointment of H. S. Wilburn, as a salesman in the Richmond territory.

International Truck Show Week

P. V. Moulder, manager of International truck sales, has announced the week of Feb. 7 as International Truck Show Week. Plans call for the participation of all International dealers and branches.

GAR WOOD for 1938

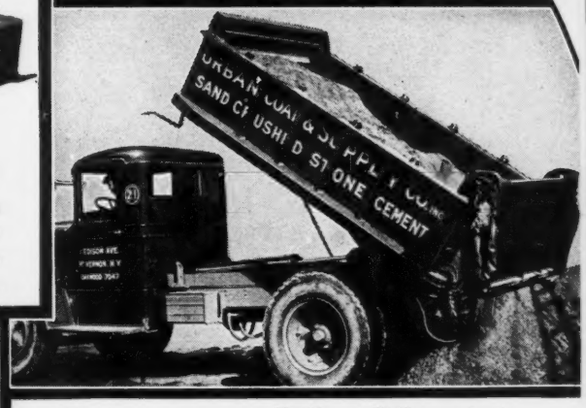
ENGINEERING SIMPLICITY INSURES the MOST POWER with the LEAST UPKEEP

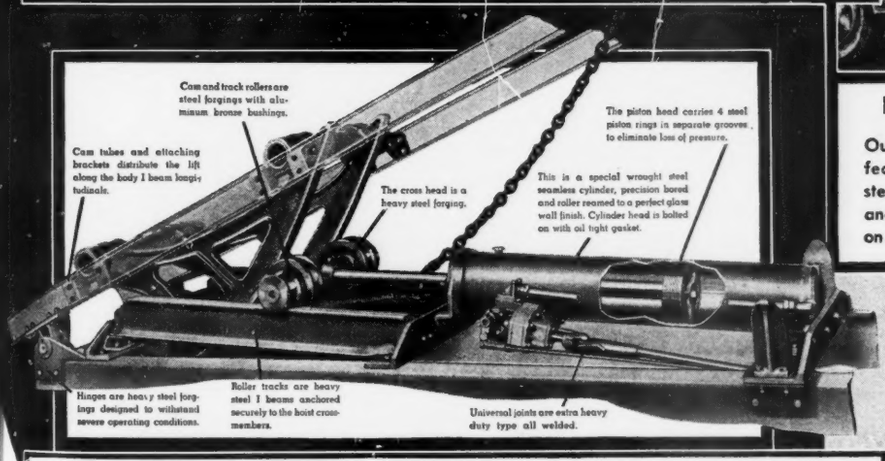

Special wrought steel cylinder, welded to base trunnion. Right and left hand oil ports eliminate high pressure pipe.
Manifold universal oil pump with new type quiet gears and steel faced bronze wear plates.
One-piece forged steel hoist trunnion.
Body trunnion member, extra heavy flanged construction.
I shaped 8 gauge steel frame side rails giving full bearing on chassis. Frame is completely boxed unit.

New light-duty units for short and long wheelbase chassis

Model D6 hoist is shown above, with only a few of its many new features noted. Lighter, stronger stampings are used extensively. Every detail is improved. . . . Other new models are also available for use with bodies from 7 to 10 feet in length on 1½-2 ton chassis. "C" type bodies, too, have been improved in appearance and construction.

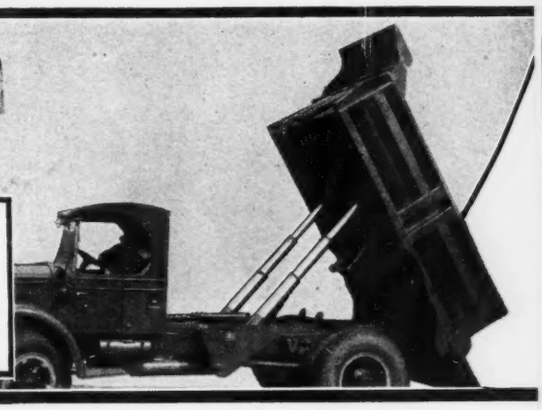
With added strength in construction, the use of forgings instead of castings and finer appearance throughout, all at no extra cost—Gar Wood units now offer the greatest dollar value in dump equipment.




Cam and track rollers are steel forgings with aluminum bronze bushings.
Cam tubes and attaching brackets distribute the lift along the body I beam longitudinals.
The cross head is a heavy steel forging.
The piston head carries 4 steel piston rings in separate grooves to eliminate loss of pressure.
This is a special wrought steel seamless cylinder, precision bored and roller reamed to a perfect glass wall finish. Cylinder head is bolted on with oil tight gasket.
Hinges are heavy steel forgings designed to withstand severe operating conditions.
Roller tracks are heavy steel I beams anchored securely to the hoist cross-members.
Universal joints are extra heavy duty type all welded.

New improvements in "W" and "L" type bodies

Outstanding in appearance, workmanship and service. New features include: heavy-duty offset type hinges; new pressed steel channel plate full width at rear to support corner posts and cover ends of I beams; heavy steel car channel reinforcing on heavy-duty tailgates and many other improvements.



New features in cam and roller hoists for heavy-duty chassis

Model F4C hoist shown above is one of a complete line of patented cam and roller hoists, now furnished with many new refinements in construction. The new roller bearing pump is manifolded and can be located on right or left side of cylinder.

Let us send you new bulletins describing in detail the Gar Wood units suitable for your needs. (Check below)

☐ Dump units for 1½ to 2 ton trucks. ☐ "W" and "L" type dump bodies. ☐ Cam and roller hoists. ☐ Telescopic hoists and extra heavy duty bodies. ☐ Mechanical hoists. ☐ Garbage and rubbish bodies.

Exclusive features on outside mounted telescopic hoists and extra heavy-duty bodies for quarries, strip mines, etc.

Here is the most complete line of special heavy-duty equipment available, with bodies equipped with patented downfolding tailgates, box type side members and other features. Hoists include dual telescopic, single telescopic and vertical telescopic types in a range of sizes.

World's Largest Manufacturer of Truck Equipment

GAR WOOD INDUSTRIES, INC. DETROIT MICHIGAN

Mack Models EE and EF

(CONTINUED FROM PAGE 36)

well-rounded. Of one-piece steel, they are shrouded with a centerline crease and have a full-faired rear. Valleys between the fenders and the hood are high. Radiator grilles are V'd and sloping, and the louvres run horizontally with the hood thereby carrying out the smooth-flowing lines. Chromium plating is widely used. Windshield frames, louvre trimmings, hub caps and bumpers are chromium-plated.

The model EE is powered by a six-cylinder engine with 3½ in. x 4⅜ in. bore and stroke developing 75 hp. at 2800 r.p.m. Piston displacement is 253 cu in. The model EF has a 3⅝ in. x 4⅜ in. powerplant which develops 78 hp. at 2800 r.p.m., and has a piston displacement of 271 cu. in. The fully counter balanced crankshafts of both engines have seven bearings and are drop-forced, heat-treated carbon steel. Cylinders are cast in block with detachable one-piece head and cylinder blocks are of chrome-nickel. Both models are of L-head arrangement with exhaust valve seat inserts.

The drive on the EE and EF is from a dry single-plate clutch through a four-speed, selective, unit-with-engine transmission, a five-speed transmission direct in fifth being available at slight extra cost. Final drive on both models is of the single reduction type. The EE has two available ratios 5.14 or 5.66, the EF having three ratios of 4.85, 5.83 or 6.80. The EF also has a double reduction axle available at slight extra charge All rear axles are full-floating, employing Hotchkiss drive.

The four-wheel footbrakes of both models are of the internal hydraulic type, total braking area on the model EE being 355 sq. in.; on the EF 384 sq. in. Brakes on the model EF are vacuum booster-actuated.

Both models have chassis frames of pressed carbon steel with side members 7 15/16 in. deep, 7/32 in. thick and a 3 in. flange. Cross members are five in number, three being of the box-girder type.

Springs on both models are 42 in. x 2¼ in. in front, 51 in. x 2½ in. in the rear and helpers are 34¼ in. x 2½ in. An exclusive feature of the spring suspension on these models is the use of Mack rubber shock insulators at all spring ends. This feature insulates both body and load against road shocks and also eliminates the necessity of lubrication at spring ends.

LAST COST
on
REFRIGERATOR FITTINGS
is the first cost when you specify Eberhard. Built not only for utmost convenience and efficiency, but also with the necessary sturdiness for long, hard service. Eberhard refrigerator locks, handles and hinges, eliminate costly repairs and troublesome failures.
The famous Eberhard "Quick-Lock" (No. 5633) and "Frostite" (No. 5633½) locks have set a new standard for inside refrigerator door fastenings, and for outside applications the toggle-action No. 5650 is a real money and nerve saver. For those heavy refrigerator doors, Eberhard's dependable hinges, in all sizes and styles, will assure lowest maintenance and greatest satisfaction.
Eberhard body hardware always proves most economical in the long run. See your dealer or write direct to
EBERHARD MANUFACTURING CO.
Division of The Eastern Malleable Iron Co.
CLEVELAND, OHIO
EBERHARD Dependable
REFRIGERATOR HARDWARE
WRITE FOR CATALOGS AND BULLETINS
E

MEMA Light and Signal Group

The formation of an organization known as the MEMA Light and Signal Group was effected during the recent A.S.I. show and the convention of the Motor & Equipment Manufacturers Association in Chicago.

The promotion of uniformity of state requirements for lighting equipment and also the uniformity in the production of such equipment is to be among the group's most important objectives. It will work closely with the Society of Automotive Engineers and the Illuminating Engineers Society in adopting practical standards.

R. S. Armstrong is the manager of the group with headquarters at 250 W. 57th St., New York, N. Y.

Revolite Now Industrial Tape Corp.

The Revolite Corp., New Brunswick, N. J., makers of various masking tapes announces that effective Jan. 1, its name was changed to Industrial Tape Corp.

COMMERCIAL CAR JOURNAL'S TRUCK SPECIFICATIONS TABLE

The Specifications Table is brought up to date in each issue from data supplied monthly by truck manufacturers

KEY TO ABBREVIATIONS AND REFERENCE MARKS

GENERAL

Make and Model—Only basic models are listed. Variations are available with most manufacturers.

Tonnage Rating—Where a spread of ratings is given the maximum ratings are for ideal operating conditions and the minimum for extremely difficult conditions; the ranges between are for varying operating conditions.

Chassis Price—Chassis price quoted applies to standard wheelbase with standard tires. All prices are F.O.B. factory.

(***)Prices ready next issue.

Gross Vehicle Weight—Is chassis weight stripped, plus body and cab weight, plus payload. Gross vehicle weight is based on maximum recommended tire size, not on tires listed as standard.

Chassis Weight Stripped—Is weight of standard chassis with standard equipment, with crankcase and cooling system full, and 5 gal. of gasoline in tank. Does not include weight of cab. Exceptions are noted.

Maximum Tire Size—Is furnished at extra cost, if the maximum differs from the standard tire size. Dual rears are understood except where otherwise noted.

Maximum Brake H.P. at Given R.P.M.—Is actual dynamometer reading without accessories.

Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

Tractors—Unless given the designation N (meaning not available as tractor), all standard models may be assumed to be available as tractors.

(D)—Diesel equipped.

(N)—Not available as tractor.

(T)—Specifically designed for tractor use only.

c.o.e.—Cab-over-engine design.

e.b.s.—Engine-between-seat design

e.u.s.—Engine-under-seat design

(1) Autocar—Larger service brake areas on rear axles are provided when tires of 24" base are supplied.

(a) Price does not include auxiliary axle. Chassis weight includes auxiliary axle complete; area of brake lining and drum area do not include auxiliary rear axle.

(d) Models intended for dump or tractor service only.

(2) Biederman—Will furnish Continental or Hercules engines at the buyer's option.

(3) Chevrolet—For export only.

(*) Chevrolet—Governor set not to exceed 45 M.P.H. Export rating 12,300 lb.

(4) Ford—Retail list price at Dearborn. Includes: Front Bumper with two Bumper Guards, five wheels, two 6.00/20 front tires, two 32x6 rear tires, spare wheel carrier and ash tray.

(5) Ford—Retail list price at Dearborn includes: front bumper with two bumper guards, five wheels, two 6.50/17 front tires, two 7.00/17 rear tires, spare wheel carrier, two front shock absorbers and ash tray.

(5a) Ford—Retail list price at Dearborn includes: front and rear bumpers, five wheels, five 6.00/16 tires, spare wheel carrier, tire lock, front and rear shock absorbers and ash tray.

(6) General Motors—Tire size indicated in column "Maximum Tire Size Furnished" is maximum capacity dual tires recommended for normal operating conditions. T-16 to F-61H inclusive are also available for export only as coach chassis. Dual performance rear axles at extra cost for T-16 to T-46 inclusive and F-16 to F-46 inclusive. Double reduction rear axle at extra cost for T-33H, T-46, F-33H, and F-46. GMC "239" engine at price deduction for T-23 and F-23. GMC "286" engine at extra cost for T-23H and F-23H. GMC "400" engine group option at extra cost for T-46 and F-46. GMC "450" engine at extra cost for T-61, T-61H, F-61, and F-61H.

(7) Hendrickson—All models available in cab-over-engine design for slight additional charge.

(8) International Harvester—Those International Truck Models carrying dual tonnage ratings when suffixed with letter L or H are given the lower or the higher tonnage authorization of that dual rating respectively. Example: Model D-40 two to three tons. Model D-40-L two tons. Model D-40-H three tons. This method of rating is based on careful consideration of the nature of the roads to be traveled, the magnitude of the loads to be transported, the traveling speeds involved and in general the all around severity of the operation.

(11) Mack—Cab and body included in list price.

(12) Mack—Cab now included in list price.

(a) Mack—Weight in Chassis Weight column is shipping weight which includes weight of a chassis of medium standard wheelbase, cab, prevailing tire size and spare tire, ready for the road.

(13) Moreland—Models E-220D and E-260D available as diesel with Hercules DRXB engine.

(13a) Moreland—H-340 also available with Continental 22R and as diesel with Hercules DRXB and Cummins HB.

(13b) Moreland—Chain drive Model HC-340 also available with Continental 22R and as diesel with Hercules DRXB and Cummins HB.

(13c) Moreland—Chain drive Model TC-420 available as diesel with Hercules DHXB and Cummins HB.

(13d) Moreland—Model HD-400 also available with Continental 22R and as diesel with Hercules DRXB and Cummins HB.

(13e) Moreland—Model TD-420 available as diesel with Hercules DHXB and Cummins HB.

(14) Reo—Price includes cab and pickup body

(14a) Reo—Price includes cab.

(15) Schacht—Available in E. B. S. design at additional cost.

(16) Sterling—Available with Diesel.

(17) Walker—Frame lengths may be changed, within limits, to suit individual requirements, at no additional cost.

(18) White—Each model shown is furnished with different specifications for different tonnage ratings. (*)—Factory governed speed 2400 r.p.m.

(*) White—Tractor rating only.

(19) Coleman—Model A-68 also furnished with Sterling LT-6 engine and Brown-Lipe Transmission No. 714. List price $13,000.

(20) Indiana—These models are for Government use and their chassis price depends upon quantity ordered.

(21) Willys—Specifications of Model CC38 Half-Tonner Cab Chassis, Model CP38 Cab Pick-up and Model CS38 Stake BodyChassis identical with Model SC38 but prices are $490, $530 and $545 respectively. Model CC38 complete with front bumper and shock eliminators (no rear fender). CP38 complete with cab, pickup box, spare tire, bumpers and shock eliminators.

(22) Dodge and Fargo—Special Heavy Duty Models for Export only, not sold in U. S. A.

(22a) Fargo—For Export only, not sold in U. S. A.

(23)—Chassis prices will follow in April issue.

MAKES—ALL

A LaF—American La France.
B—Bendix. **Bl**—Brown-Lipe.
BO—Bendix front, Own rear.
Bu or Bud—Buda.
Cat—Caterpillar **Cl or Cla**—Clark.
Co—Covert **Con**—Continental.
Cum—Cummins-Diesel
Eat—Eaton. **Fu**—Fuller.
Ha S—Hall Scott
Her—Hercules. **L**—Lockheed.
LO—Lockheed front, Own rear
LW—Lockheed front, Wisconsin rear.
Lyc—Lycoming.
N.P.—New Process.
O or Ow—Own.
Op or Opt—Optional.
Sal—Salisbury
Shu—Shuter.
Spi—Spicer **Ste or St**—Sterling.
T or Tim—Timken
T&M—Timken & Moreland
TW—Timken-Wisconsin
TWH—Timken Wisconsin Herrington
WG—Warner Gear.
WH—Wisconsin Herrington.
W-Hes—Waukesha Hesselman.
Wau—Waukesha.
W or Wis—Wisconsin.
Ws—Westinghouse.

BRAKES—SERVICE

Location

2—Two Wheels, rear only.
2/4—Two-wheel brakes effective on all four wheels through driveshaft.
4—Four Wheels, front and rear.
4r—Four Wheels, rear only.
6—Six Wheels, front and rear.

Type

I—Internal. **X**—External.

Operation

A—Air.
D—Hydraulic and mechanical.
H—Hydraulic.
M—Mechanical.
V—Vacuum.

BRAKES—HAND

Location

C—Center of double propeller shaft.
2—Rear wheels. **4**—Four wheels.
J—Jackshaft.
R—Worm or bevel gearshaft.
T—Transmission.
F—Driveshaft.
P—Propeller shaft.

Type

D—Tru-Stop disk.
I—Internal. **X**—External

BRAKE DRUMS

Material

a—Cast alloy iron.
A—American Car Fdry.
C—Centrifuse. **D**—Dayton.
E—Ermalite. **F**—Furnace Iron.
G—Gunite. **H**—Hunt Spiller.
N—Nickel Iron. **c**—Cast iron.
p—Pressed steel. **P**—Pressed steel.
s—Cast steel.
(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type

I—"I" Beam. **C**—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center.
Tf—Tapered front.
X—X-Braced.

GOVERNOR STANDARD

Y—Yes. N—No.

REAR AXLE

Final Drive and Type

B—Bevel. **C**—Chain.
D—Dead. **F**—Full-floating.
Hy—Hypoid
2—Double Reduction.
S—Spiral bevel.
W—Worm.
w/2—Worm or Double Reduction Optional.
½—Semi-floating.
¾—Three-quarter floating.
(*) Ratios other than standard at extra cost.
(**) Only one ratio.

Drive and Torque

A—Radius Rods and Torque Arm.
H—Hotchkiss. (springs)
R—Radius Rods
T—Torque Arm.
U—Torque Tube.

WHEELS DRIVEN

2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group.
4R—Forward and rear units of Rear Axle Group.
4F—Front Axle and Forward unit of Rear Axle Group.
4FR—Front axle and rear unit of rear axle group
6—All wheels.

FORMULAS

(For Transportation Engineering)

Miles Per Hour

$$M.P.H. = \frac{R.P.M. \times D.}{336 \times F.G.R.}$$

M.P.H.=Miles per hour.
R.P.M.=Revolutions per minute.
D.=Effective tire diameter.
F.G.R.=Final gear ratio.

Grade Ability

GA=TE—RR.
GA=Grade ability.
TE=Tractive effort.
RR=Road resistance—.012 for hard surfaced roads.

Tractive Effort

$$TE = \frac{\text{In. lb. torque} \times F.G.R. \times EFF.}{G.V.W. \times R.}$$

EFF.=Efficiency—.90 for all rear axles except worm, then .85.
R.=Rolling radius.
G.V.W.=Gross vehicle weight.
in. lb. torque=12 x torque in lb. ft.

Torque in LB. FT.

Torque=.65 x cu. in. displacement. (This is approximate and should be used only when actual torque is not known.)
Cu. In. Displacement
D=B x B x .7854 x S x No. of Cyl.

AMA Horsepower Rating

$$AMA\ H.P. = \frac{B \times B \times No.\ of\ Cyl.}{2.5}$$

D=Cu. in. displacement.
B=Cylinder bore.
S=Cylinder stroke.

ADVERTISING PAGES

Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight with Max. Tires	Chassis Wt. (Stripped)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Tire Size Furnished	ENGINE DETAILS: Make and Model	No. of Cylinders. Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Spd's	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operat'n	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimension (Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
1	Autocar.....(1) A	.....	1095	139	179	13500	4790	6.50/20D	8.25/20	Her JXB	6-3½x4¼	263	5.8	184	73–2300	7-2½x10	Y	Cla 185F	4	Tim 54412	SF	H	** 6.8	Tim 31007	L4IHV	308	470	c	TD	62½	7	T
2	.....B	.....	1480	139	179	16000	5150	6.50/20D	8.25/20	Her JXC	6-3¾x4¾	282	5.8	197	78–2300	7-2½x10	Y	Cla 200VO	5	Tim 56410	SF	H	** 6.8	Tim 31008	L4IHV	358	578	c	TD	62½	8x2¾x¾	T
3	.....(N) RM	.....	2280	164	212	18500	6715	7.50/20D	9.00/20	Own 315	6-3¾x4¾	315	5.5	210	78–2400	7-3x12⅝	Y	Own RL5	5	Own RL	2F	H	6.49-7.89	Tim 32502	LO4IDV	466	694	c	2I	84	8x2¾x¾	T
4	.....(N) RL	.....	2595	164	212	20000	6895	8.25/20D	9.00/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own RL5	5	Own RL	2F	H	6.49-7.89	Tim 32502	LO4IDV	466	694	c	2I	84	8¼x3x⅜	T
5	.....(N) D	.....	3600	164	182	25000	7565	9.00/20D	9.75/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own DF5	5	Own DA	2F	H	6.49-7.89	Tim 35000	LO4IDV	466	694	c	2I	84	8¼x3x⅜	T
6	.....(N) DF	.....	4200	164	182	26500	8445	9.75/20D	10.50/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own DF5	5	Own DFA	2F	H	6.49-7.89	Tim 35100	LO4IDV	580	930	c	2I	84	8¼x3x⅜	T
7	.....(N) N	.....	4500	164	218	28000	8705	9.75/20D	10.50/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own DF5	5	Own N,	2F	H	7.20-8.57	Tim 35100	LO4IDV	580	930	c	FD	84	9x3x¼	T
8	.....(N) NFS	.....	5600	195	195	26000	10380	10.50/20D	10.50/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3y14⅜	Y	Own DF5	5	Own TF	2F	H	7.20-8.57	Tim 26450	LO4IDV	580C	930	c	FD	119½	9x3x¼	T
9	.....(N) NF	.....	5100	164	218	29500	9735	10.50/20D	10.50/24	Own 453	6-4½x4¾	453	5.5	335	108–2200	7-3x 4⅜	Y	Own TF5	5	Own TF	2F	H	7.20-8.57	Tim 35100	LO4IDV	580	930	c	FD	84	10⅜x3x¾	T
10	.....(N) CF	.....	6000	172	203	30000	10300	36x7D	36x7	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own TF4	4	Own C	2F	R	7.20-9.43	Own SCH	O2IMV	502	930	c	FD	88½	9x3x¼	T
11	.....(N) TS	.....	6600	204	204	29740	11404	10.50/24D	10.50/24	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own TF4	4	Own TG	2F	H	7.20-8.68	Tim 26452	TO4IA	659	1051	c	FD	129	10½x3x	T
12	.....(N) T	.....	5850	182	218	36000	10485	10.50/20D	11.25/24	Own 501	6-4½x5¼	501	5.5	375	123–2200	7-3¼x14	Y	Own TF5	5	Own TG	2F	H	7.20-8.68	Tim 26452	TO4IA	631	930	c	FD	102	10½x3x¼	T
13	.....(T) RMT	.....	2490	142	164	28000	6835	8.25/20D	9.00/20	Own 315	6-3¾x4¾	315	5.5	210	78–2400	7-3x12⅝	Y	Own RL5	5	Own RL	2F	H	6.49-7.89	Tim 32502	LO4IDV	466	694	c	2I	62	8x2¾x¼	T
14	.....(T) 1TR	.....	2730	142	164	32000	6875	8.25/20D	9.00/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own RL5	5	Own RL	2F	H	6.49-7.89	Tim 32502	LO4IDV	466	694	c	2I	62	8¼x3x⅜	T
15	.....(T) 2TR	.....	4100	164	164	36000	7905	9.00/20D	9.75/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own DF5	5	Own N	2F	H	6.49-7.89	Tim 32502	LO4IDV	567	831	c	2I	62	8¼x3x⅜	T
16	.....(T) 3TR	.....	4800	148	164	40000	8375	9.75/20D	10.50/20	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own TF	2F	H	7.20-8.57	Tim 32502	LO4IDV	567	831	c	FD	68	8¼x3x⅜	T
17	.....(T) 4TR	.....	4950	148	164	45000	9265	9.75/20D	10.50/20	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own TF5	5	Own TF	2F	H	7.20-8.57	Tim 35000	LO4IDV	567	831	c	FD	68	8¼x3x⅜	T
18	.....(T) 5TR	.....	5700	148	164	50000	9655	10.50/20D	10.50/24	Own 501	6-4½x5¼	501	5.5	375	123–2200	7-3¼x14	Y	Own TF5	5	Own TG	2F	H	7.20-8.68	Tim 35100	TO4IA	580	930	c	FD	68	9x3x¼	T
19	.....(d) RLD	.....	2595	148	148	16000	6785	8.25/20D	9.00/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own RL5	5	Own RL	2F	H	6.49-7.89	Tim 32502	LO4IDV	466	694	c	2I	68	8¼x3x⅜	T
20	.....(d) DP	.....	3750	148	164	18000	7635	9.00/20D	9.00/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own DF5	5	Own DFA	2F	H	7.13-7.89	Tim 35000	LO4IDV	567	831	c	2I	68	8¼x3x⅜	T
21	.....(d) DH	.....	4550	148	164	23000	8535	9.75/20D	9.75/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own DF5	5	Own TF	2F	H	7.20-8.57	Tim 35100	LO4IDV	580	930	c	2I	68	9x3x¼	T
22	.....(d) S	.....	5750	170	170	30000	10025	10.50/20D	10.50/24	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	OwTF4-A3	12	Own CGA	2F	H	7.69-8.52	Tim 26452	LO4IDV	580	930	c	FD	90	10⅜x3x¼	T
23	.....(d) C	.....	6650	170	170	44000	11385	10.50/24D	11.25/24	Own 501	6-4½x5¼	501	5.5	375	123–2200	7-3¼x14	Y	OwTF4-A3	12	Tim 79733	2F	H	8.59-10.12	Tim 27452	LT4IDV	688	1050	c	FD	90	10½x3x	T
24	.....(c.o.e.) UA	.....	1095	84	142	13500	4740	6.50/20D	8.25/20	Her JXB	6-3½x4¼	263	5.8	184	73–2300	7-2½x10	Y	Cla 185F	4	Tim 54412	SF	H	** 6.8	Tim 31008	L4IHV	358	578	c	TD	62	7	T
25	.....(c.o.e.) UB	.....	1545	84	142	16000	5290	7.00/20D	8.25/20	Her JXC	6-3¾x4¾	282	5.8	197	78–2300	7-2½x10	Y	Cla 200VO	5	Tim 56410	SF	H	** 6.8	Tim 32502	L4IHV	358	578	c	TD	62	8x2¾x¼	T
26	e.u.s. (N) UD	.....	3800	109	145	25000	7950	9.00/20D	9.75/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own UDF5	5	Own DA	2F	H	6.49-7.89	Tim 35100	LO4IDV	466	694	c	2I	84¼	8x3x¼	T
27	e.u.s. (N) UDF	.....	4550	109	145	26500	8540	9.75/20D	10.50/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own UDF5	5	Own DFA	2F	H	6.49-7.89	Tim 26452	LO4IDV	580	930	c	2I	84¼	8x3x¼	T
28	e.u.s. (N) UN	.....	5000	109	163	28000	9070	9.75/20D	10.50/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own UDF5	5	Own C & N	2F	H	7.20-8.57	Tim 26452	LO4IDV	580	930	c	FD	84¼	8x3x¼	T
29	e.u.s. (N) UNFS	.....	5600	145	145	27000	9585	10.50/20D	10.50/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own UDF4	4	Own TF	2F	H	7.20-8.57	Tim 26452	B4IMV	637	932	c	FD	120¼	9x3x¼	T
30	e.u.s. (N) UNF	.....	5400	128	163	29500	9780	10.50/20D	10.50/24	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own UTF5	5	Own TF	2F	H	7.20-8.57	Tim 26452	LO4IMV	580	930	c	FD	103¼	9x3x¼	T
31	e.u.s. (N) UTS	.....	6600	145	145	29900	10927	10.50/24D	10.50/24	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own UTF4	4	Own TG	2F	H	7.20-8.68	Tim 26452	TO4IA	631	930	c	FD	120¼	10½x3x	T
32	e.u.s. (N) UT	.....	5900	128	163	36000	10440	10.50/20D	10.50/24	Own 501	6-4½x5¼	501	5.5	375	123–2200	7-3¼x14	Y	Own UTF5	5	Own TG	2F	H	7.20-8.68	Tim 26452	TO4IA	631	930	c	FD	103¼	9x3x¼	T
33	e.u.s. (T) 1UTR	.....	3850	98	109	32000	7140	8.25/20D	9.75/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own UDF5	5	Own DA	2F	H	6.49-7.89	Tim 35000	LO4IDV	466	694	c	2I	73¼	8x3x¼	T
34	e.u.s. (T) 2UTR	.....	4650	98	109	36000	8750	9.00/20D	9.75/20	Own 404	6-4¼x4¾	404	5.5	295	97–2200	7-3x14⅜	Y	Own UDF5	5	Own C	2F	H	7.20-9.43	Tim 35000	LO4IDV	567	831	c	2I	73¼	8x3x¼	T
35	e.u.s. (T) 3UTR	.....	5200	98	109	40000	8900	9.75/20D	10.50/20	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own UDF5	5	Own C	2F	H	7.20-9.43	Tim 35000	LO4IDV	567	831	c	FD	73¼	8x3x¼	T
36	e.u.s. (T) 4UTR	.....	5450	98	109	45000	9200	9.75/20L	10.50/20	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Own UTF5	5	Own C	2F	H	7.20-9.43	Tim 26452	LO4IDV	580	930	c	FD	73¼	8x3x¼	T
37	e.u.s. (T) 5UTR	.....	5900	98	109	50000	9790	10.50/20D	10.50/24	Own 501	6-4½x5¼	501	5.5	375	123–2200	7-3¼x14	Y	Own UTF5	5	Own CG	2F	H	7.69-8.52	Tim 26452	TO4IA	631	930	c	FD	73¼	9x3x¼	T
38	e.u.s. (d) UDP	.....	4400	100	109	23000	8410	9.00/20D	9.75/20	Own 358	6-4x4¾	358	5.5	250	85–2300	7-3x12⅝	Y	Own UDF5	5	Own C	2F	H	7.20-9.43	Tim 26452	LO4IDV	567	831	c	2I	75¼	8x3x¼	T
39	e.u.s. (d) US	.....	5850	120	120	31000	10240	10.50/20D	10.50/24	Own 453	6-4½x4¾	453	5.5	333	108–2200	7-3x14⅜	Y	Fu	5	Own CGA	2F	H	7.69-8.52	Tim 26452	LO4IDV	580	930	c	FD	95¼	9x3x¼	T
40	Available... PX-105	¾–1	1035	Op	Op	8500	2425	6.50/18S	6.50/20	Wau FC	4-3¼x4	133	5.8	98	36–2800	3-2¼x4	N	WG T9	4	Tim 53508	SF	H	** 6.6	Tim 30000H	L4IH	266	427	a	TX	Opt	4x2x¼	T
41	.....X-110	1½	1385	Op	Op	11500	3600	6.50/20D	7.50/20	Wau ZKA	6-3⅜x4½	221	5.6	154	66–2900	4-2⅜x5⅝	N	WG T9	4	Tim 53508	SF	H	** 6.6	Tim 30000H	L4IH	266	427	a	TX	Opt	8x2½x¼	T
42	.....X-120	1½–2	1575	Op	Op	12500	4000	6.50/20D	7.50/20	Wau BM	6-3⅝x4¼	263	5.4	165	78–3100	7-2⅝x10¼	N	WG T9	4	Tim 53308	SF	H	** 6.6	Tim 30000H	L4IH	303	503	a	TX	Opt	10x2½x¼	T
43	.....X-170	2½	1840	Op	Op	15000	4800	7.50/20D	8.25/20	Wau BM	6-3⅝x4¼	263	5.4	165	78–3100	7-2⅝x10¼	N	WG T9	4	Tim 54411	SF	R	** 6.8	Tim 31000H	L4IH	330	582	a	TX	Opt	10x2½x¼	T
44	.....X-210	2½	1930	Op	Op	15000	4850	7.50/20D	8.25/20	Wau BK	6-3¾x4¼	282	5.4	188	85–3200	7-2⅝x10¼	Y	Fu 5-A-330	5	Tim 54411	SF	R	** 6.8	Tim 31000H	L4IH	330	582	a	TX	Opt	10x2½x¼	T
45	.....X-240	3–3½	2230	Op	Op	19000	5500	8.25/20D	9.00/20	Wau BK	6-3¾x4¼	282	5.4	188	85–3200	7-2⅝x10¼	Y	Fu 5-A-330	5	Tim 56410	SF	R	** 7.4	Tim 32502H	L4IH	330	582	a	TX	Opt	12x2½x¼	T
46	.....X-300	4	3050	Op	Op	20700	7000	9.00/20D	9.75/20	Wau 6-110	6-4x4¾	358	5.1	254	110–2800	7-2½x12½	Y	Fu 5-A-430	5	Tim 58205	SF	R	** 8	Tim 33000H	L4IH	376	660	a	TD	Opt	12x2½x¼	T
47	.....X-400	5	3940	Op	Op	26500	8200	9.75/20D	9.75/20	Wau 6-125	6-4⅝x5½	462	5.0	324	125–2600	7-3x13⅞	Y	Fu 5-A-620	5	Tim 65725H	WF	R	** 8.50	Tim 35000H	L4IHV	462	768	a	TD	Opt	14x3x	T
48	Biederman (2)...10	1	1095	145	157	10000	3100	7.00/20S	8.25/20S	Con 25A	6-3¾x4	215	4.9	142	70–2800	4-2¾x6¾	Y	WG T9	4	Cla B373	BF	R	5.1-6.4	Cla F212	L4IH	312	424	G	TX	54	7x3x	T
49	20	1½	1295	157	180	11400	3800	7.00/20D	8.25/20	Wau 6BL	6-3½x4¼	245	5.2	162	75–2800	7-2⅝x10¼	Y	Fu 5-A-29	4	Cla B373	BF	R	5.1-6.4	Cla F212	L4IH	312	424	G	TX	82	7x3x	T
50	30	2	1560	166	190	14000	4800	7.50/20D	9.00/20	Wau 6BL	6-3½x4¼	245	5.2	162	75–2800	7-2⅝x10¼	Y	Fu 5-A-29	4	Cla B373	BF	R	5.6-6.4	Cla F308	L4IH	458	556	G	TX	82	7½x3x¼	T
51	40	2½	1750	180	200	15000	5500	8.25/20D	9.00/20	Wau 6BK	6-3¾x4¼	282	5.0	190	84–2800	7-2⅝x10¼	Y	Fu 5-A-29	5	Cla B613	BF	R	5.6-6.4	Cla F308	L4IH	458	556	G	TX	105	7½x3x¼	T
52	50	3	2205	180	200	16000	6800	8.25/20D	9.00/20	Con E601	6-3⅞x4½	318	4.6	205	88–2600	7-2⅝x12	Y	Fu 5-A-29	5	Cla B805	BF	R	6.4-7.2	Cla F308	L4IH	458	556	G	TX	105	8x3x¼	T
53	60	3½	2750	180	210	20000	7100	9.00/20D	10.50/20	Con E602	6-4¼x4½	360	4.5	240	92–2600	7-2⅝x12	Y	Fu 5-A-38	5	Cla B805	BF	R	5.7-7.2	Cla F318	L4IH	490	660	G	PX	105	8x3x¼	T
54	70	5	3600	157	210	24000	7530	9.75/20D	10.50/20	HerWXC3	6-4¼x4½	383	4.7	265	98–2500	7-2⅝x12	Y	Fu 5-A-38	5	Wis 1237	2F	R	7.0-9.4	Tim 35100	Ws4IA	616	836	G	PX	76	9x3x¼	T
55	80	7½	4200	187	210	30000	8500	10.50/20D	12.00/22	Her RX8	6-4½x5½	500	4.9	330	110–2200	7-3½x13	Y	Fu 5-A-53	5	Tim 26450	SF	R	6.0-9.2	Tim 26450	Ws4IA	616	836	G	PX	103	10x3x	T
56	Brockway.....78	1½–2	895	138	164	.....	3965	6.00/20D	32x6	Con 24B	6-3	210	5.7	154	71–3100	4-2¼x6	N	WG T9	4	Tim 53521H	SF	H	5.66-6.6	Tim 30000H	L4IH	255	402	a	TX	65	7	T
57	83	1½–2½	1195	138	170	.....	4100	6.50/20D	7.50/20	Con 25B	6-3¼x4⅜	244	5.7	171	84–3250	4-2⅝x6¾	N	WG T9	4	Tim 53521H	SF	H	5.66-6.6	Tim 30000H	L4IHV	255	402	a	TX	71	7	T
58	87	2–2½	1240	144	176	.....	4435	6.50/20D	7.50/20	Con 28B	6-3⅝x4⅝	248	5.7	170	78–3100	7-2⅜x10	N	WG T9	4	Tim 53521H	SF	H	5.66-6.6	Tim 30000H	L4IHV	255	402	a	TX	71	7	T
59	88	1½–3	1290	150	176	.....	4500	6.50/20D	7.50/20	Con 25B	6-3¼x4⅜	244	5.7	171	84–3250	4-2⅝x6	N	WG T9	4	Tim 53307H	SF	H	6.2 –6.8	Tim 30000H	L4IHV	310	477	a	TX	71	7	T
60	.....90X	2½–3	1470	150	176	.....	4635	7.00/20D	34x7	Con 28B	6-3⅝x4⅝	248	5.3	170	78–3100	7-2⅜x10	N	WG T9	4	Tim 53307H	SF	H	5.83-6.8	Tim 31000H	L4IHV	302	528	a	TX	77	7	T
61	92	1½–4	1560	150	188	.....	4700	7.00/20D	8.25/20	Con 25B	6-3¼x4⅜	244	5.7	171	84–3250	4-2⅜x6⅜	N	WG T9	4	Tim 54411H	SF	H	5.83-6.8	Tim 31000H	L4IHV	329	580	a	CD	83	8x3x¼	T
62	94	1½–5	1850	156	188	.....	5050	7.50/20D	8.25/20	Con 25B	6-3¼x4⅜	244	5.7	171	84–3250	4-2⅜x6⅜	N	BL B341	4	Tim 56410H	SF	H	6.16-7.4	Tim 31000H	L4IHV	329	580	a	CD	83	8x3x¼	T
63	96	2½–3	1740	156	176	.....	5150	7.00/20D	8.25/20	Con 29B	6-3⅛x4½	288	5.4	192	78–2650	7-2⅝x13	N	BL B341	4	Tim 53307H	SF	H	5.83-6.8	Tim 31000H	L4IHV	302	528	a	CD	83	7	T
64	110	3	1900	156	188	.....	5490	7.50/20D	8.25/20	Con 29B	6-3⅛x4½	288	5.4	192	78–2650	7-2⅝x13	N	BL B341	4	Tim 54411H	SF	H	5.83-6.8	Tim 31000H	L4IHV	329	580	a	CD	83	8x3x¼	T
65	.....125X	3	2075	164	188	.....	5570	7.50/20D	8.25/20	Con 31B	6-3½x4½	314	5.5	214	86–2600	7-2⅝x13	N	BL B341	4	Tim 54411H	SF	H	5.83-6.8	Tim 31000H	L4IHV	329	580	a	CD	91	8x3x¼	T
66	130	3–4	2245	164	206	.....	6270	8.25/20D	9.00/20	Con 29B	6-3⅛x4½	288	5.4	192	78–2650	7-2⅝x13	N	BL B341	4	Tim 56410H	SF	R	6.16-7.4	Tim 32505H	L4IHV	329	580	a	CD	91	8x3x¼	T
67	145	3–4	2385	176	206	.....	6390	8.25/20D	9.00/20	Con 31B	6-3⅞x4½	318	5.5	214	86–2600	7-2⅝x13	N	BL B341	4	Tim 56410H	SF	R	6.16-7.4	Tim 32505H	L4IHV	329	580	a	CD	103	8x3x¼	T
68	.....150X-4	3½–4	2680	176	206	.....	6520	8.25/20D	9.00/20	Con 32B	6-4¼x4½	361	5.4	252	95–2500	7-2⅝x13	Y	BL 3241	4	Tim 56410H	SF	R	5.71-7.4	Tim 32505H	L4IHV	329	580	a	CD	103	8x3x¼	T
69	.....150X-5	3½–4	2710	176	206	.....	6570	8.25/20D	9.00/20	Con 32B	6-4¼x4½	361	5.4	252	95–2500	7-2⅝x13	Y	Fu 5-A-43	5	Tim 56410H	SF	R	5.71-7.4	Tim 32505H	L4IHV	329	580	a	CD	103	8x3x¼	T
70	120	2½–3	2260	156	188	.....	5800	7.50/20D	8.25/20	Con 30B	6-4x4½	311	4.2	203	85–2500	7-2¾x13	N	BL 314	4	Tim 54300H	SF	H	4.86-5.83	Tim 32505H	L4IR	329	580	a	CD	69	8x3x¼	T
71	140	3–3½	2850	156	206	.....	6385	8.25/20D	9.00/20	Con 30B	6-4x4½	311	4.2	203	85–2500	7-2¾x13	Y	BL 314	4	Wis 5000L	2F	R	6.00-7.35	Tim 32505H	L4IHV	329	580	a	CD	69	8x3x¼	T
72	141	3½–4	3355	170	200	.....	7450	9.00/20D	9.75/22	Con 30B	6-4x4½	311	4.2	203	85–2500	7-2¾x13	Y	Wis 72000	4	Wis 72000L	2F	R	6.28–8.00	Shu 15685B1	L4IHV	396	663	a	CD	83	8x3x¼	T
73	.....130-PS	4–4½	2525	164	206	.....	6250	34x7D	9.00/20	Con 29-B	6-3⅛x4¼	288	5.4	192	78–2650	7-2⅝x13	Y	Fu 5-A-43	5	Tim 56200H	SF	R	6.16-7.4	Tim 32505H	L4IHV	329	580	a	CD	91	8x3x¼	B
74	.....160X	4–5	3295	153	219	.....	7350	9.00/20D	9.75/22	Con 32B	6-4¼x4½	361	5.4	252	95–2500	7-2⅝x13	Y	Fu 5-A-43	5	Tim 58205H	SF	R	6.14-7.8	Shu 15685B1	L4IHV	396	663	a	CD	83	8¼x3x	T
75	.....170X	4–5	3640	153	219	.....	7960	9.00/20D	9.75/22	Con 33B	6-4⅜x4½	381	4.4	276	106–2600	7-2¾x13	Y	Fu 5-A-62	5	Wis 72000L	2F	R	5.00-8.40	Shu 15685B1	L4IHV	396	663	a	CD	83	8¼x3x	T
76	.....165X	5–7	3795	153	219	.....	8150	9.75/20D	10.50/22	Con 32B	6-4¼x4½	361	5.4	252	95–2500	7-2⅝x13	Y	Fu 5-A-62	5	Wis 1337BH	2F	R	5.63-8.59	Shu 15685B1	L4IHV	484	772	a	CD	83	8¼x3x	T
77	.....175X	5–7½	4290	153	219	.....	8550	9.00/20D	10.50/22	Con 34B	6-4⅜x4⅜	427	4.2	308	118–2600	7-2¾x13	Y	Fu 5-A-62	5	Wis 1337BH	2F	R	5.63-8.59	Shu 15685B1	L4IHV	484	772	a	CD	83	8¼x3x	T
78	.....195X	5–7½	4230	153	219	.....	8650	9.75/20D	10.50/22	Con 33B	6-4¼x4¾	381	.4	376	106–2600	7-2¾x13	Y	Fu 5-A-62	5	Wis 1337BH	2F	R	5.63-8.59	Shu 15685B1	L4IHV	484	772	a	CD	83	8¼x3x	T
79	.....220X	7½–10	4930	153	219	.....	9050	10.50/20D	11.25/24	Con 34B	6-4⅜x4⅜	427	4.2	308	118–2600	7-2¾x13	Y	Fu 5-A-62	5	Wis 1757H	2F	R	6.42–8.5	Shu 15685B1	L4IHV	531	899	a	CD	83	8¼x3x	T
80	.....240X	6–7½	5130	153	219	.....	8590	9.75/20D	10.50/24	Con 35B	6-4½x5¼	501	4.3	364	135–2200	7-2¾x13	Y	Fu 5-A-62	5	Wis 1337BH	2F	R	5.63–8.59	Shu 15685B1	L4IHV	484	772	a	CD	83	8¼x3x	T
81	.....260X	10	6030	195	219	.....	9720	10.50/22D	11.25/24	Con 35B	6-4½x5¼	501	4.3	364	135–2200	7-2¾x13	Y	Fu MHU	4	Wis 1757H	2F	R	6.42–8.5	Shu 15695B1	L4IHV	531	899	a	CD	125	8¼x3x	T
82	.....260S	10	6380	195	219	.....	10000	10.50/24D	11.25/24	Con 35B	6-4½x5¼	501	4.3	364	135–2200	7-2¾x13	Y	Fu MHU	4	Wis 1757H	2F	R	6.42–8.5	Shu 15695B1	Lw4IHV	566	956	a	CD	125	8¼x3x	T
83	.....V-1200	15	10500	156	240	.....	12400	11.25/22D	11.25/24	A LaF V12	12–415	753	5.1	505	240–2500	4-3½x9¼

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Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight, with Max. Tires	Chassis Wt. (Stripped)	TIRE SIZES D-dual rear S-single rear Standard Front and Rear	Maximum Tire Size Furnished	ENGINE DETAILS Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings Number, Diameter and Length	Governor Standard	TRANSMISSION Make and Model	Forward Spd's	REAR AXLE Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operat'n	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimension (Std. W. B.)	FRAME Side Rail Dimensions	Type
	Dodge (Con't)																															
† 1	...(22) RXH-45	.....	(23)	133	220	16850	4600	34x7D	34x7	Own	6-3¾x4½	242	5.6	175	85-3000	4-2½x5⅜	Y	Cla 200V61	5	Own	SF	H	5.6-6.3	Own	O4IHV	322	502	a	TX	57½	8½x2¾x⅜	CX
† 2	...(22) RXK-60	.....	(23)	152	205	23000	6350	10.50/20D	10.50/20	Own	6-3¼x5	331	5.2	230	100-2800	7-2x12⅛	Y	Cla 200V87	5	Tim	SF	H	6.16-7.4	Tim	O4IHV	421	685	a	TX	66½	8½x2⅝x⅜	CX
† 3	...(D)(22) RZ-65	.....	(23)	133	220	15000	4900	7.00/20D	7.00/20	Her DJXC	6-3¾x4½	298	14.	178	77-2600	7-3x10⅜	Y	Cla 200V61	5	Own	SF	H	5.6-6.3	Own	O4IHV	322	502	a	TX	57½	8½x2¾x⅜	CX
	4 Duplex.....8	.....	3860	166	Op	21000	6800	8.25/20D	9.00/20	Bud K325	6-3¾x4¾	330	4.5	213	87-2800	7-3rx11½	Y	BL 2352	5	Tim 65200	WF	H	5.9-8.4	Shu 5572	L4IHV	399	485	a	TD	79	7x¼x3½	C
	5 .....SC	.....	4300	166	Op	22000	7300	9.00/20D	9.75/20	Bud K369	6-4⅛x4¾	369	4.5	234	99-2800	7-3x11½	Y	BL 3353	. .	Wis 72200	WF	R	5.6-8.0	Shu 5572	L4IHV	399	485	a	TD	79	7x3½x¼	C
	6 .....SAC	.....	4800	172	Op	25500	7900	9.75/20D	10.50/20	Bud K428	6-4⅜x4¾	428	4.5	280	105-2400	7-3rx11½	Y	BL 3353	5	Tim 75733	w/2F	R	6.8-9.4	Shu 5572	L4IHV	504	605	a	TD	85	7x¼x3½	C
	7 .....SAK	.....	5200	172	Op	30000	8550	10.50/20D	11.25/20	Bud K428	6-4⅜x4¾	428	4.5	280	105-2400	7-3x11½	Y	BL 3353	5	Tim 76733	w/2F	R	6.0-9.2	Shu 5572	L4IHV	554	666	a	TD	85	7x¼x3½	C
	8 .....K	.....	5650	172	Op	32000	9000	10.50/20D	11.25/20	Bud L525	6-4½x5½	525	4.5	336	111-2200	7-3x11½	Y	BL 5351	5	Tim 76733	w/2F	R	6.0-9.2	Shu 637	L4IHV	554	666	a	TD	85	8x¼x3½	C
	9 L	.....	9600	184	Op	40500	10500	11.25/24D	12.50/24	Bud LO525	6-4½x5½	525	. . .	385	135-2400	7-3x11½	Y	BL 7341	12	Tim 79733W	W/2	R	7.97-12.1	Shu 639	Ws41A	. . .	. . . .	c	TD	98	10⅛x3¾x⅝	C
† 10	Esco.....238	2-2½	2860	165	190	15000	5900	8.25/20D	8.25/20	Con E603	6-4¼x4½	383	4.6	250	95-2500	7-2¾x12⅛	Y	Cla 270V	5	Cla B642	SF	H	6.42-7.16	Cla F308	L4IHV	350	578	a	CD	82	6x3x¼	CX
† 11	.....238-H	2½-3	3100	182	215	17000	7100	9.00/20D	9.00/20	Con E603	6-4¼x4½	383	4.6	250	95-2500	7-2¾x12⅛	Y	Cla 270V	5	Cla B805	SF	H	7.16-6.42	Cla F320	L4IHV	393	659	A	CD	82	6x3x¼	PX
† 12	338	3	3450	190	215	18000	7700	9.00/20D	9.00/20	Con 21R	6-4⅝x4¾	428	4.6	308	118-2400	7-2¾x13⅜	N	Fu 5A53	5	Cla B805	SF	H	5.75-7.16	Cla F320	L4IHV	393	659	a	CD	107	6x3x⅜	PX
	13 Fageol.....106BK	1½-2½	1340	156	169	12500	4400	6.50/20D	7.50/20	Wau 6BK	6-3¾x4½	282	5.1	190	82-2800	7-2⅝x10¼	N	WG T9	4	Tim 53300H	BF	H	4.56- 6.6	Tim 30000H	L4IH	272	380	G	TX	76	8x3x¼	T
	14 .....135BK	2-3	1628	169	183	15000	5100	7.50/20D	8.25/20	Wau 6BK	6-3¾x4½	282	5.1	190	82-2800	7-2⅝x10¼	N	WG T9	4	Tim 54411H	BF	H	4.56- 6.8	Tim 31000H	L4IH	355	578	G	TX	89½	8x3x¼	T
	15 .....250BK	2½-4	2275	183	196	19500	5900	8.25/20D	9.00/20	Wau 6BK	6-3¾x4¾	282	5.1	190	82-2800	7-2⅝x10¼	N	WG T9	4	Tim 56410H	BF	H	4.44- 7.4	Tim 33020H	L4IHV	355	578	G	TX	102¼	8x3x¼	T
	16 .....250MK	2½-4	2540	188	201	19500	6175	8.25/20D	9.00/20	Wau 6MK	6-4⅛x4¾	381	4.4	240	82-2200	7-2⅝x12½	N	BL 3341	4	Tim 56410H	BF	H	4.44- 7.4	Tim 33020H	L4IHV	355	578	G	TX	102¼	8x3x¼	T
	17 .....250RA	2½-4	2700	188	201	20700	6400	8.25/20D	9.00/20	Wau 6MK	6-4⅛x4¾	381	4.4	240	82-2200	7-2⅝x12½	Y	BL 3341	4	Tim 58200H	BF	H	5.56- 7.8	Tim 33020H	L4IHV	398	659	G	TX	103¼	8x3x¼	T
	18 .....300HP	3-5	3275	188	201	22000	7150	9.00/20D	9.75/20	Wau 6-110	6-4x4¾	358	5.2	254	110-2800	7-2⅞x12½	Y	BL 5241	4	Tim 58200H	BF	H	5.56- 7.8	Tim 35020H	L4IHV	398	659	G	FD	103¼	8x3x¼	T
	19 .....300RA	3-5	3560	188	201	26300	7650	9.00/20D	9.75/20	Wau 6-110	6-4x4¾	358	5.2	254	110-2800	7-2⅞x12½	Y	BL 5241	4	Tim 65725H	w/2F	R	6.0-9.25	Tim 35020H	L4IHV	484	768	G	FD	103¼	8x3x¼	T
	20 .....370HP	5-6	4950	202	218	26300	9150	9.75/20D	10.50/20	Wau 6-125	6-4⅜x5⅛	462	5.2	324	125-2600	7-3x13⅞	Y	BL 5341	4	Tim 65725H	w/2F	R	6.0-9.25	Tim 35000H	L4IHV	484	768	G	FD	116¾	10⅜x3¼x1¼	T
	21 .....370RA	5-6	5200	202	218	32000	9400	9.75/20D	10.50/20	Wau 6-125	6-4⅜x5⅛	462	5.2	324	125-2600	7-3x13⅞	Y	BL 5341	4	Tim66720DH	w/2F	R	6.0-9.25	Tim 35000H	L4IHV	663	768	G	FD	116¾	10⅜x3¼x1¼	T
	22 (D) 370D	5-6	7000	213	229	26300	10250	9.75/20D	10.50/20	Cum 6HB	6-4⅞x6	672	17.	500	150-1800	7-4½x16½	Y	BL 7341	4	Tim 65725H	w/2F	R	6.0-9.25	Tim 26450H	L4IHV	484	768	G	FD	117¾	10⅜x3¼x1¼	T
	23 (D) 370RAD	5-6	7250	213	229	32000	10500	9.75/20D	10.50/20	Cum 6HB	6-4⅞x6	672	17.	500	150-1800	7-4½x16½	Y	BL 7341	4	Tim66720DH	w/2F	R	6.0-9.25	Tm 26450H	L4IHV	663	768	G	FD	117¾	10⅜x3¼x1¼	T
	24 .....370C	5-6	5200	202	218	30000	10900	9.75/20D	10.50/20	Wau 6-125	6-4⅜x5⅛	462	5.2	324	125-2600	7-3x13⅞	Y	BL 5341	4	Own	CD	R	6.32-7.59	Tim 35000H	L4IHV	484	768	G	FD	116¾	10⅜x3½x1	T
	25 .....(D) 370DC	5-6	7250	213	229	33000	12200	9.75/20D	10.50/20	Cum 6HB	6-4⅞x6	672	17.	500	150-1800	7-4½x16½	Y	BL 7341	4	Own	CD	R	6.32-7.59	Tim 26450H	L4IHV	538	768	G	FD	117¾	10⅜x3½x1	T
† 26	Fargo..(22) FXG1	.....	(23)	116	116	4550	2050	6.00/16D	6.00/168	Own	6-3¾x4⅛	218	5.8	146	71-3000	4-2⅛x5⅜	N	NP 36220	3	Own	Hy½	H	3.5-4.78	Own	O4IH	148	251	C	TX	37½	6x2x¼	C
† 27	.....(22) FXG2	.....	(23)	120	136	6300	2600	7.00/16D	7.50/168	Own	6-3⅜x4⅛	218	5.8	146	71-3000	4-2⅛x5⅜	N	NP 36280	3	Own	S½	H	3.9-4.78	Own	O4IH	182	301	a	TX	41½	6⅛x2¼x⅛x⅛	C
† 28	.....(22) FXG3	.....	(23)	126	159	11100	3375	7.00/20D	7.00/20	Own	6-3⅜x4⅛	218	5.8	150	73-3000	4-2⅛x5⅜	N	NP 36300	4	Own	SF	H	4.87-5.4	Own	O4IH	190	310	a	TX	51⅛	6⅛x2¼x⅛	CX
† 29	.....(22) FXG4	.....	(23)	126	190	13500	3825	32x6D	32x6	Own	6-3⅜x4⅛	228	5.8	158	78-3000	4-2⅛x5⅜	N	NP 36310	4	Own	SF	H	5.6-6.3	Own	O4IH	263	406	a	TX	51⅛	7x2¼x⅜	CX
† 30	.....(22) FXGD4	.....	(23)	182	182	13500	4200	7.50/20D	7.50/20	Own	6-3⅜x4⅛	228	5.8	158	78-3000	4-2⅛x5⅜	N	NP 36310	4	Own	SF	H	5.6-6.3	Own	O4IH	263	406	a	TX	146	8½x2⅜x⅜	. . .
† 31	.....(22) FXG6	.....	(23)	133	220	16850	4500	34x7D	34x7	Own	6-3⅜x4½	242	5.6	175	85-3000	4-2½x5⅜	N	Cla 200V61	5	Own	SF	H	5.6-6.3	Own	O4IHV	322	502	a	TX	57½	8½x2¾x⅜	CX
† 32	.....(22a) FG1	.....	(23)	116	116	4000	2060	6.00/16D	6.00/168	Own	6-3⅜x4⅛	218	5.8	146	71-3000	4-2⅛x5⅜	N	NP 36220	3	Own	Hy½	H	3.5-4.78	Own	O4IH	148	251	C	TX	37½	6x2x⅛	C
† 33	.....(22a) FG2	.....	(23)	120	136	6000	2580	7.00/16D	7.50/168	Own	6-3⅜x4⅛	218	5.8	146	71-3000	4-2⅛x5⅜	N	NP 36280	3	Own	S½	H	3.9-4.78	Own	O4IH	182	301	a	TX	41½	6⅛x2¼x⅛x⅛	C
† 34	.....(22a) FG3	.....	(23)	126	159	9500	3015	6.00/20D	32x68	Own	6-3⅜x4⅛	218	5.8	150	73-3000	4-2⅛x5⅜	N	NP 36300	4	Own	SF	H	4.87-5.4	Own	O4IH	190	310	a	TX	51⅛	6⅛x2¼x⅛	CX
† 35	.....(22a) FG4	.....	(23)	126	190	11500	3340	6.00/20D	32x68	Own	6-3⅜x4⅛	228	5.8	158	78-3000	4-2⅛x5⅜	N	NP 36310	4	Own	SF	H	5.6-6.3	Own	O4IH	263	406	a	TX	51⅛	7x2¼x⅜	CX
† 36	.....(22a) FGD4	.....	(23)	183	182	11500	4200	7.50/20D	7.50/20	Own	6-3⅜x4⅛	228	5.8	158	78-3000	4-2⅛x5⅜	N	NP 36310	4	Own	SF	H	5.6-6.3	Own	O4IH	263	406	a	TX	146	8½x2¼x⅜	. . .
† 37	.....(22a) FG6	.....	(23)	133	220	13500	4100	7.00/20D	7.00/20	Own	6-3⅜x4½	242	5.6	175	85-3000	4-2½x5⅜	N	Cla 200V61	5	Own	SF	H	5.6-6.3	Own	O4IHV	322	502	a	TX	57½	8½x2¾x⅜	CX
† 38	(D) (22a) FGZ6	.....	(23)	133	220	15000	4900	7.00/20D	7.00/20	Her DJXC	6-3¾x4½	298	14.	178	77-2600	7-3x10⅜	Y	Cla 200V61	5	Own	SF	H	5.6-6.3	Own	O4IHV	322	502	a	TX	57½	8½x2¾x⅜	CX
	39 Federal.....9	¾-1	695	105	121	.....	2850	6.00/20S	6 00 20	Con F4140	4-3⅛x4⅜	140	6.0	107	52-2500	3-2¼x4⅛	N	WG T9	4	Tim 53503H	SF	H	5.14-7.2	Tim 30020H	L4IH	270	388	a	TX	35⅞	6⅛x2⅞x⅛	T
	40 10	¾-1½	645	128	152	.....	2950	6.00/20S	6.00/20	Her OOB	4-3¾x4½	199	5.3	127	50-2500	3-2x7⅛	N	WG T9	4	Tim 53503H	SF	H	5.14-6.2	Tim 30020H	L4IH	270	388	a	TX	51⅝	7x2⅞x⅜	T
	41 11	¾-1½	655	127	152	.....	2950	6.00/20S	6.00/20	Her QXB3	6-3¼x4⅛	205	5.2	134	57-2500	7-2⅛x10⅞	N	WG T9	4	Tim 53503H	SF	H	5.14-6.2	Tim 30020H	L4IH	270	388	a	TX	51⅝	7x2⅞x⅜	T
	42 .....11H	1-1½	695	127	164	.....	3500	6.00/20S	7.00/20	Her QXB3	6-3¼x4⅛	205	5.2	134	57-2500	7-2⅛x10⅞	N	WG T9	4	Tim 53521H	SF	H	5.66-6.6	Tim 30020H	L4IH	264	402	a	TX	51⅝	7x2⅞x⅜	T
	43 15	1½-2½	755	135	194	.....	4230	6.00/20S	7.50/20	Her JXA	6-3⅜x4¼	228	5.3	155	70-2800	7-2⅛x10⅛	N	WG T9	4	Tim 53300H	SF	H	5.14-6.2	Tim 30000H	L4IH	264	402	a	TX	56¾	8½x2⅞x¼	T
	44 .....15H	1½-3	995	135	194	.....	4650	6.50/20D	8.25/20	Her JXA	6-3⅜x4¼	228	5.3	155	70-2800	7-2½x10⅛	N	WG T9	4	Tim 54411H	SF	H	5.83-6.8	Tim 30000H	L4IHV	338	528	a	TX	56¾	8½x2⅞x¼	T
	45 18	1½-3	995	135	194	.....	4340	6.50/20D	8.25/20	Her JXB	6-3⅝x4¼	263	5.4	183	80-2800	7-2½x10⅛	N	WG T9	4	Tim 53393H	SF	H	5.56-6.8	Tim 30003H	L4IHV	368	652	a	TX	56¾	8½x2⅞x¼	T
	46 .....18H	2-3½	1180	135	194	.....	4750	7.00/20D	8.25/20	Her JXB	6-3⅝x4¼	263	5.4	183	80-2800	7-2½x10⅛	N	WG T9	4	Tim 54411H	SF	H	5.83-6.8	Tim 30003H	L4IHV	342	578	a	TX	56¾	8½x2⅞x¼	T
	47 20	2-3½	1120	135	194	.....	4440	6.50/20D	8.25/20	Her JXB	6-3⅝x4¼	263	5.4	183	80-2800	7-2½x10⅛	N	WG T9	4	Tim 53397H	SF	H	5.83-6.8	Tim 31000H	L4IHV	313	527	a	TX	56¾	8½x2⅞x¼	T
	48 .....20H	2-4	1290	135	194	.....	4850	7.00/20D	9.00/20	Her JXB	6-3⅝x4¼	263	5.4	183	80-2800	7-2½x10⅛	N	WG T9	4	Tim 54411H	SF	H	5.83-6.8	Tim 31000H	L4IHV	342	578	a	TX	56¾	8½x2⅞x¼	T
	49 25	2½-4	1395	135	194	.....	5220	7.00/20D	9.00/20	Her JXC	6-3¾x4¼	282	5.4	195	85-2800	7-2½x10⅛	Y	Cla 185F	4	Tim 54411H	SF	H	5.83-6.8	Tim 31000H	L4IHV	342	578	a	TX	56¾	8½x2⅞x¼	T
	50 .....25H	2½-4½	1565	135	194	.....	5550	7.50/20D	9.00/20	Her JXC	6-3¾x4¼	282	5.4	195	85-2800	7-2½x10⅛	Y	Cla 185F	4	Tim 56411H	SF	H	6.16-7.4	Tim 31000H	L4IHV	386	659	a	TX	56¾	8½x2⅞x¼	T
	51 29	3-4½	1850	135	194	.....	5660	7.50/20D	9.00/20	Her JXD	6-4x4¼	320	5.6	225	95-2800	7-2½x10⅛	Y	Cla 200V	5	Tim 56411H	SF	H	6.16-7.4	Tim 32501H	L4IHV	386	659	a	TX	56¾	8½x2⅞x¼	T
	52 .....29H	3-5	2050	135	194	.....	6000	8.25/20D	9.00/20	Her JXD	6-4x4¼	320	5.6	225	95-2800	7-2½x10⅛	Y	Cla 200V	5	Tim 58300H	SF	H	6.83-7.8	Tim 32501H	L4IHV	386	659	a	TX	56¾	8½x2⅞x¼	T
	53 40	4-5	2775	157	219	.....	7200	9.00/20D	10.50/20	Wau 6MK	6-4⅛x4¾	381	6.5	273	98-2400	7-2⅝x12½	Y	Cla 270V	5	Tim 58300H	SF	H	5.57-7.8	Tim 33000H	L4IHV	386	659	a	TX	82	10⅛x3¾x⅝	T
	54 .....40DR	4-5	2950	157	219	.....	7200	9.00/20D	10.50/20	Wau 6MK	6-4⅛x4¾	381	6.5	273	98-2400	7-2⅝x12½	Y	Cla 270V	5	Wis 72300H	2F	H	5.61-7.27	Tim 33000H	L4IHV	386	659	a	TX	82	10⅛x3¾x⅝	T
	55 50	5-6	3375	157	219	.....	7900	9.00/20D	10.50/20	Wau 6MZ	6-4⅛x4¾	404	6.0	292	105-2400	7-2⅝x12½	Y	Cla 270V	5	Tim 75733H	2F	R	6.85-9.41	Tim 35000H	L4IHV	477	768	a	FD	82	10⅛x3¾x⅝	T
	56 .....50H	5-7½	3855	157	219	.....	8300	9.75/20D	10.50/20	Wau 6MZ	6-4¼x4¾	404	6.0	292	105-2400	7-2⅝x12½	Y	Cla 270V	5	Tim 76736H	2F	R	7.35-10.2	Tim 35000H	L4IHV	477	768	a	FD	82	10⅛x3¾x⅝	T
	57 .....C7-C7W	6-7½	4710	195	249	.....	10000	9.75/20D	10.50/24	Wau 6SRK	6-4⅝x5⅛	517	4.6	350	115-2200	7-3x13⅞	Y	Cla B710	5	Tim 76736H	w/2f	R	7.35-10.2	Tim 36020H	L4IHV	512	867	a	TD	102	7⅞x3½x⅞	P
	58 .....C8-C8W	6-7½	5120	195	249	.....	10200	9.75/20D	10.50/24	Wau 6SRK	6-4⅝x5⅛	517	4.6	350	115-2200	7-3x13⅞	Y	Cla B710	5	Tim 76736W	w/2f	R	7.35-10.2	Tim 36020W	Ws41A	609	921	a	TD	102	7⅞x3½x⅞	P
	59 .....C8H	7½	5950	185	249	.....	11200	10.50/24D	11.25/24	Wau 6SRK	6-4⅝x5⅛	517	4.6	350	115-2200	7-3x13⅞	Y	Cla B710	5	Tim 79733W	2F	R	8.75-11.2	Tim 36020W	Ws41A	737	1050	a	TD	92	7⅞x3½x⅝	P
	60 .....(c.o.e.) 75	1½-2½	960	104	159	.....	4280	6.00/20†S	7.50/20	Her JXA	6-3⅜x4¼	228	5.3	155	70-2800	7-2½x10⅛	N	WG T9	4	Tim 53300H	SF	H	5.14-6.2	Tim 31100H	L4IH	264	402	a	TX	60	8½x2⅞x¼	T
	61 .....(c.o.e.) 75H	1½-3	1190	104	159	.....	4700	6.50/20D	8.25/20	Her JXA	6-3⅜x4¼	228	5.3	155	70-2800	7-2½x10⅛	N	WG T9	4	Tim 54411H	SF	H	5.83-6.8	Tim 31100H	L4IHV	338	528	a	TX	60	8½x2⅞x¼	T
	62 .....(c.o.e.) 80	2-3½	1265	104	159	.....	4500	6.50/20D	8.25/20	Her JXB	6-3⅝x4¼	263	5.4	183	80-2800	7-2½x10⅛	N	WG T9	4	Tim 53397H	SF	H	5.83-6.8	Tim 31102H	L4IHV	313	527	a	TX	60	8½x2⅞x¼	T
	63 .....(c.o.e.) 80H	2-4	1435	104	159	.....	4900	7.00/20D	9.00/20	Her JXB	6-3⅝x4¼	263	5.4	183	80-2800	7-2½x10⅛	N	WG T9	4	Tim 54411H	SF	H	5.83-6.8	Tim 31102H	L4IHV	342	578	a	TX	60	8½x2⅞x¼	T
	64 .....(c.o.e.) 85	2½-4	1555	104	159	.....	5280	7.00/20D	9.00/20	Her JXC	6-3¾x4¼	282	5.4	195	85-2800	7-2½x10⅛	Y	Cla 185F	4	Tim 54411H	SF	H	5.83-6.8	Tim 32502H	L4IHV	342	578	a	TX	60	8½x2⅞x¼	T
	65 .....(c.o.e.) 85H	2½-4½	1725	104	159	.....	5600	7.50/20D	9.00/20	Her JXC	6-3¾x4¼	282	5.4	195	85-2800	7-2½x10⅛	Y	Cla 185F	4	Tim 56411H	SF	H	6.16-7.4	Tim 32502H	L4IHV	386	659	a	TX	60	8½x2⅞x¼	T
	66 .....(c.o.e.) 89	3-4½	2000	104	159	.....	5720	7.50/20D	9.00/20	Her JXD	6-4x4¼	320	5.6	225	95-2800	7-2½x10⅛	Y	Cla 200V	5	Tim 56411H	SF	H	6.16-7.4	Tim 32502H	L4IHV	386	659	a	TX	60	8½x2⅞x¼	T
	67 .....(c.o.e.) 89H	3-5	2200	104	159	.....	6050	8.25/20D	9.00/20	Her JXD	6-4x4¼	320	5.6	225	95-2800	7-2½x10⅛	Y	Cla 200V	5	Tim 58300H	SF	H	6.83-7.8	Tim 32502H	L4IHV	386	659	a	TX	60	8½x2⅞x¼	T
† 68	Ford.....(4) 817T	1½	615	157	191	.....	3620	6.00/20†S	7.50/20	Own	8-3⅛x3¾	221	6.12	150	85-3800	3-2.4x4.68	N	Own	4	Own	FS	. .	5.14-6.67	Own	O41M	368	526	a	2I	83⅛	7x2¾x.21	C
† 69	.....(4) 81T	1½	590	134	134	.....	3600	6.00/20†S	7.50/20	Own	8-3⅛x3¾	221	6.12	150	85-3800	3-2.4x4.68	N	Own	4	Own	FS	. .	5.14-6.67	Own	O41M	368	526	a	2I	60⅞	7x2¾x.21	C
† 70	.....(5) 81Y	1	575	122	122	.....	2930	6.50/17°S	7.50/17	Own	8-3⅛x3⅜	221	6.12	150	85-3800	3-2.4x4.68	N	Own	3	Own	FS	. .	**-4.11	Own	O41M	277	409	a	4I	48⅛	6x2¼x.19	C
† 71	.....(5) 82Y	1	565	122	122	.....	2730	6.50/17°S	7.50/17	Own	8-2.6x3.2	136	6.6	94	60-3500	3-2x4.33	N	Own	3	Own	FS	. .	**-6.67	Own	O41M	277	409	a	4I	48⅛	6x2¼x.19	C
† 72	(5a) Comm. 81C	.....	465	112	112	.....	2230	6.00/16S	6.50/16	Own	8-3⅛x3¾	221	6.12	150	85-3800	3-2.4x4.68	N	Own	3	Own	S¼	. .	3.78-4.11	Own	O4IM	186	293	a	4I	67	5½x2x.11	Tlx
† 73	(5a) Comm. 82C	.....	455	112	112	.....	2030	6.00/16S	6.50/16	Own	8-2.6x3.2	136	6.6	94	60-3500	3-2x4.33	N	Own	3	Own	S¼	. .	**-4.44	Own	O4IM	186	293	a	4I	67	5½x2x.11	Tlx
	74 Gen...(6) (N) T-14	½	445	112	126	.....	2410	6.00/16S	15-7.50S	Own 223	6-3⅛x4	223	6.2	. . .	81-3400	4-2½rx5¾	N	Own	3	Own	S½	U	**-4.11	Own	O41H	168	242	c	2I	38¼	5¾x2¼x⅝x⅝	C
	75 .....T-145	¾	515	126	. . .	.....	2550	7.00/15S	15-7.50S	Own 223	6-3⅛x4	223	6.2	. . .	81-3400	4-2½rx5⅜	N	Own	3	Own	S½	U	**-4.11	Own	O41H	168	242	c	2I	52¼	5⅝x2¼x⅝x⅝	C
	76 .....T-15	1	545	131	. . .	.....	2745	7.00/17S	7.50/17S	Own 223	6-3⅛x4	223	6.2	. . .	81-3400	4-2½rx5⅜	N	Own	3	Own	S½	U	**-4.11	Own	O41H	200	297	c	2I	57¾	6⅛x2⅜x⅝x⅝	CT
	77 .....T-155	1-1½	565	131	. . .	.....	2960	7.50/16S	7.00/16	Own 223	6-3⅛x4	223	6.2	. . .	81-3400	4-2¼rx5⅜	N	Own	3	Own	SF	H	4.57-5.14	Own	O41H	200	297	cC	2I	57¾	6⅛x2⅜x⅝x⅝	CT
	78 .....T-16	1½-3	585	131	157	.....	3490	6.00/20†S	7.50/20	Own 230	6-3⅛x4⅛	230	6.2	172	86-3500	4-2⅛rx5⅛	N	Own	4	Own	SF	H	5.67-6.20	Own	O41H	337	478	C	2I	57¾	7x2¾x⅜	T
	79 .....T-16H	1½-3½	805	130	174	.....	3985	6.00/20†S	7.50/20	Own 230	6-3⅛x4⅛	230	6.2	172	86-3500	4-2⅛rx5⅛	N	Own	4	Own	SF	H	5.67-6.60	Own	LO41H	349	478	C	2I	57¾	8x2¾x⅜	T
	80 .....T-18	1½-4	965	136	178	.....	4560	6.00/20D	8.25/20	Own 239	6-3⅞x4⅝	239	5.1	175	81-3000	4-2⅜x7⅛	Y	Own	4	Own	SF	H	5.67-6.60	Own	LO41H	352	483	CN	TX	60	8x3x¼	T
	81 .....T-18H	1½-4½	1140	136	178	.....	4940	6.50/20D	34x7	Own 239	6-3⅞x4⅝	239	5.1	175	81-3000	4-2⅜x7⅛	Y	Own	4	Own	SF	H	5.83-6.80	Own	L4IH	342	534	CN	TX	60	8x3x¼	T
	82 .....T-23	2-4½	1440	136	196	.....	5320	7.00/20D	34x7	Own 257	6-3⅛x4⅝	257	5.0	190	87-2800	4

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Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight with Max. Tires	Chassis Wt. (Stripped)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	Maximum Tire Size Furnished	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	Forward Spd's	REAR AXLE: Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operat'n	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Std. W. B.)	FRAME: Side Rail Dimensions	Type
1	International..C40	2-3	1145	145	185	14500	4362	6.50/20D	34x7	Ow FAB223	6-3 1/8 x4	223	5.4	160	78-3400	4-2 3/8 x5 11/16	N	Own F5	5	Own H-755 H	SF	H	5.62-7.40	Own H-108 H	B4IH	339	478	c	TX	61 3/8	8x3 1/4 x 1/2	T
2	(Con't.)....CS40	2-3	1280	145	185	14500	4448	6.50/20D	34x7	Ow FAB223	6-3 1/8 x4	223	5.4	160	78-3400	4-2 3/8 x5 11/16	N	Own F5	5	Own 731H	SF	H	5.14-8.10	Own H-108 H	B4IH	339	478	c	TX	61 3/8	8x3 1/4 x 1/2	T
3	.....D-40	2-3	1365	134	176	14700	4805	7.00/20D	34x7	Ow FAB259	6-3 1/2 x4 1/2	259	5.7	192	89-3200	4-2 3/8 x5 11/16	N	Own F51A	5	Own R1400	SF	H	5.62-6.50	Own F400	B4IHV	339	478	c	PX	60	8 1/4 x 1/2 x3	T
4	.....C50	3-4	1835	145	185	17000	5650	32x6D	36x8	Ow FBB279	6-3 5/8 x4 1/2	279	4.7	191	83-2900	7-2 3/4 x11 13/16	Y	Own H5	5	Own 905H	SF	H	6.14-7.2	Own 251H	B4IHV	376	532	c	TX	59 3/4	8x3 1/4 x 1/4	T
5	.....D-50	3-4	1975	137	179	17200	6215	7.50/20D	36x8	Ow FBB298	6-3 3/4 x4 1/2	298	5.7	218	93-2800	7-2 3/4 x11 13/16	Y	Own F51A	5	Own R1500	SF	H	6.43-7.16	Own F500	B4IHV	376	532	c	PX	60	8 1/4 x 1/2 x3 1/2	T
6	.....C55	3 1/2-4 1/2	2490	140	210	21500	6606	34x7D	10.50/20	Ow FBB298	6-3 3/4 x4 1/2	298	5.7	214	90-2800	7-2 3/4 x11 13/16	Y	Own H5	5	Own 1006H	SF	H	6.43-7.16	Own 300H	B4IHV	477	678	c	TX	54 3/4	8 1/2 x3 3/4 x 1/4	T
7	.....D-60	3 1/2-4 1/2	2795	149	197	20400	7190	9.00/20D	10.50/20	Ow FBB361	6-4 1/2 x4 1/2	360	5.2	268	111-2700	7-2 3/4 x11 13/16	Y	Own F52	5	Own R1600	SF	H	**-6.43	Own F600	B4IHV	477	679	c	PX	72	9 1/8 x 1/4 x3 1/2	T
8	.....C60	4-5	2615	140	210	21500	6685	34x7D	10.50/20	Ow FBB298	6-3 3/4 x4 1/2	298	5.7	214	90-2800	7-2 3/4 x11 13/16	Y	Own H5	5	Own 1154H	2F	H	7.1-9.43	Own 300H	B4IHV	477	678	c	TX	54 3/4	8 1/2 x3 3/4 x 1/4	T
9	.....DR-60	4-5	2945	149	197	20400	7190	9.00/20D	10.50/20	Ow FBB361	6-4 1/2 x4 1/2	360	5.2	268	111-2700	7-2 3/4 x11 13/16	Y	Own F52	5	Own R1650	2F	H	**-7.10	Own F600	B4IHV	477	679	c	PX	72	9 1/8 x 1/4 x3 1/2	T
10	.....DR-70	4-6	4195	149	197	24400	8100	36x8D	40x10	Ow FBB401	6-4 1/2 x5	400	5.2	308	114-2600	7-2 3/4 x11 13/16	Y	Own F52	5	Own R1700	2F	H	**-8.05	Own F700	T4IA	617	923	G	PX	72	10x 1/4 x8 1/2	T
11	.....A-8	7 1/2	6200	160	225	38000	12035	9.75/20D	44x10	Own FEB	6-5x5 1/2	648	4.4	460	140-2100	7-3 1/4 x17 3/4	N	Own H7	5	Own 1305	2F	H	4.95-6.37	Own 505	T4IA	620	923	G	TD	72	12 1/2 x3 3/4 x3 1/2	T
12	..(e.u.s.) D-300	1 1/2-2	715	99	117	12000	3345	30x5S	7.50/20	Ow HD232A	6-3 1/8 x4 1/2	232	6.0	170	81-3200	4-2 3/8 x6 11/16	N	Own H4A	4	Own R1200	SF	H	**-6.16	Own F450	B4IH	291	412	c	TX	83	6 1/2 x 1/4 x2 5/8	T
13	..(e.u.s.) DS-300	1 1/2-2	830	99	117	12100	3445	30x5S	7.50/20	Ow HD232A	6-3 1/8 x4 1/2	232	6.0	170	81-3200	4-2 3/8 x6 11/16	N	Own H4A	4	Own R2200	SF	H	5.14-7.15	Own F450	B4IH	291	412	c	TX	83 1/2	6 1/2 x 1/4 x2 5/8	T
♦ 14	Kenworth.....88	.....	2067	146	200	15000	4400	32x6D	8.25/20	Her JXC	6-3 1/4 x4 1/4	282	5.7	194	83-2500	7-2 1/2 x10 11/16	N	BL 2341	4	Tim 54411H	SF	H	5.8-6.8	Tim 31000H	L4IHV	388	578	a	TX	60	8x3x 1/4	C
♦ 15	89	.....	2277	146	200	18000	4830	7.50/20D	9.00/20	Her JXC	6-3 1/4 x4 1/4	282	5.7	194	83-2500	7-2 1/2 x10 11/16	N	BL 2341	4	Tim 56410H	SF	H	6.16-7.4	Tim 31000H	L4IHV	388	578	a	TX	60	8x3x 1/4	C
♦ 16	127	.....	2800	154	202	19500	6500	8.25/20D	9.75/20	HerWXC2	6-4x4 1/4	360	4.5	212	90-2400	7-2 5/8 x13 1/4	N	BL 3341	4	Tim 56410H	SF	H	6.16-7.4	Tim 33000H	L4IHV	388	578	a	FD	72	8x3x 1/4	C
♦ 17	90	.....	2419	146	200	19200	6380	7.50/20D	9.00/20	Her JXC	6-3 1/4 x4 1/4	282	5.7	194	83-2500	7-2 1/2 x10 11/16	N	BL 2341	4	Tim 58206H	SF	H	6.8-7.8	Tim 31000H	L4IHV	436	660	a	TD	60	8x3x 1/4	C
♦ 18	128	.....	3100	165	206	20700	6450	9.00/20D	9.75/20	Her WXC2	6-4 1/4 x4 1/4	360	8.5	250	100-2400	7-2 5/8 x13 1/4	N	BL 3341	4	Tim 58206H	SF	H	6.8-7.8	Tim 33000H	L4IHV	455	660	...	FD	83	8x3x 1/2	C
♦ 19	.....146B	.....	3179	158	206	20700	6600	9.00/20D	9.75/20	Bud K393	6-4 1/4 x4 3/8	393	4.9	260	103-2600	7-3x11 1/2	N	BL 3341	4	Tim 58206H	SF	H	6.8-7.8	Tim 33000H	L4IHV	436	660	a	FD	72	8x3x 1/2	C
20	525	.....	(23)	168	204	26300	8400	9.00/20D	10.50/20	Bud LO525	6-4 1/2 x5 1/2	525	5.5	385	135-2200	7-3x11 1/2	Y	Fu 5A-620	5	Tim 75736	2F	H	6.85-8.64	Tim 35100	L4IHV	510	867	d	TD	84	7 1/2 x3 1/4 x 1/4	C
21	526	.....	(23)	168	204	32000	8700	9.75/20D	10.50/20	Bud LO525	6-4 1/2 x5 1/2	525	5.5	385	135-2200	7-3x11 1/2	Y	Fu 5A-620	5	Tim 76736	2F	H	6.42-8.50	Tim 35100	L4IHV	510	867	a	TD	84	7 1/2 x3 1/4 x 1/4	C
22	.....241A	.....	(23)	169	228	35000	9000	9.75/20D	10.50/20	HaS 160-1	6-4 1/4 x5 1/2	468	4.4	322	112-2200	4-2 3/4 x10 3/8	Y	BL 5341	4	Tim 76736	2F	H	6.02-8.5	Tim 36020N	Ws2IM	436	596	a	FD	84	8x3x 1/2	C
♦ 23	....(D) 505	.....	5928	168	204	20700	9640	9.00/20D	9.75/20	Cum HB4	4-4 7/8 x6	448	17.	287	83-1800	5-4 1/2 x11 1/2	Y	BL 5341	4	Tim 58206H	SF	H	4.56-7.80	Tim 33000H	L4IH	384	660	a	TD	84	7 1/2 x3 1/4 x 1/4	C
♦ 24	....(D) 506	.....	6326	168	204	25300	9900	9.00/20D	10.50/20	Cum HB4	4-4 7/8 x6	448	17.	287	83-1800	5-4 1/2 x11 1/2	Y	BL 5341	4	Tim 75736H	2F	H	6.85-9.41	Tim 33000H	L4IH	478	768	a	TD	84	7 1/2 x3 1/4 x 1/4	C
♦ 25	....(D) 507	.....	6745	168	204	32000	10850	9.75/20D	10.50/20	Cum HB4	4-4 7/8 x6	448	17.	287	83-1800	5-4 1/2 x11 1/2	Y	BL 5341	4	Tim 76736H	2F	H	6.02-9.20	Tim 35100H	L4IH	510	867	a	TD	84	7 1/2 x3 1/4 x 1/4	C
26	....(D) 511	.....	(23)	167	205	28000	10700	9.00/22D	9.75/22	Cum HB6	4-4 7/8 x6	672	17.	427	125-1800	7-4 1/2 x16 1/2	Y	BL 7341	4	Tim 59000	SF	H	6.04-9.55	Tim 36000	Ws2IA	400	596	a	TD	102	7 1/2 x3 1/4 x 1/4	C
27	....(D) 519	.....	(23)	190	225	26300	10200	9.00/20D	10.50/20	Cum HB6	6-4 7/8 x6	672	17.	427	125-1800	7-4 1/2 x16 1/2	Y	BL 7341	4	Tim 75736	2F	H	6.85-9.41	Tim 35100	Ws2IA	356	542	a	TD	103	7 1/2 x3 1/4 x 1/4	C
28	....(D) 521	.....	(23)	190	225	35000	10000	9.00/20D	10.50/22	Cum HB6	6-4 7/8 x6	672	17.	427	125-1800	7-4 1/2 x16 1/2	Y	BL 7341	4	Tim 76736	2F	H	6.02-9.20	Tim 36000	Ws2IA	400	596	a	TD	103	7 1/2 x3 1/4 x 1/4	C
29	La France.....C3	2-2 1/2	1915	177	207	13000	4900	7.00/20D	8.25/20	Wau 6BK	6-3 3/4 x4 1/4	282	5.2	188	85-3200	7-2 5/8 x10 1/4	N	WG T9	4	Tim 53307H	SF	R	5.83-6.80	Tim 33000H	L4IH	328	616	a	TX	91	10x3 1/4 x 1/4	L
30	Republic.....D4	2 1/2-3	2065	177	207	15000	5150	7.00/20D	8.25/20	Wau 6BK	6-3 3/4 x4 1/4	282	5.2	188	85-3200	7-2 5/8 x10 1/4	N	Fu MKU	4	Tim 54411H	SF	R	5.83-6.80	Tim 33000H	L4IHV	338	672	a	TX	91	10x3 1/4 x 1/4	L
31	.....E4	3-4	2315	177	207	17000	5475	7.50/20D	9.00/20	Wau 6BK	6-3 3/4 x4 1/4	282	5.2	188	85-3200	7-2 5/8 x10 1/4	N	Fu MLU	4	Tim 56410H	SF	R	5.71-7.40	Tim 33000H	L4IHV	338	754	a	TX	91	10x3 1/4 x 1/4	L
32	.....F4	3 1/2-4 1/2	3070	177	207	22000	6525	7.50/20D	9.75/20	Wau 6MK	6-4 1/2 x4 3/8	381	6.1	252	85-2500	7-2 5/8 x12 1/2	Y	Fu 5A430	5	Tim 58300H	SF	R	5.57-7.80	Tim 33000H	L4IHV	384	794	a	TX	91	10x3 1/4 x 1/4	L
33	.....H6	4-5	3340	177	207	22000	7175	9.00/20D	9.75/20	Wau 6MK	6-4 1/2 x4 1/4	381	6.1	252	85-2500	7-2 5/8 x12 1/2	Y	Fu 5A430	5	Wis 72000L	2F	R	5.61-8.40	Tim 33000H	L4IHV	384	756	a	TX	91	10x3 1/4 x 1/4	L
34	.....K1	5-6	5300	195	225	26000	8235	9.75/20D	10.50/20	Wau 6SRL	6-4 3/8 x5 1/2	462	4.6	302	102-2400	7-3x13 3/4	Y	Fu MRU	4	Tim 75733H	2F	R	6.85-9.4	Tim 35100H	L4IHV	510	990	a	TX	107	9x3 1/4 x 1/4	L
35	.....M4	6-7	5745	195	225	32000	8685	9.75/20D	10.50/24	Wau 6-125	6-4 5/8 x5 1/2	462	5.0	328	125-2400	7-3x13 7/8	Y	Fu MRU	4	Tim 76733H	2F	R	6.86-9.2	Tim 35100H	L4IHV	510	1030	a	TX	107	9x3 1/4 x 1/4	L
36	Le Moon.....208	2	1275	140	178	13200	3600	6.50/20S	32x6	Wau 6BL	6-3 1/2 x4 1/4	245	5.1	165	73-3000	7-2 5/8 x10 1/4	N	WG T9	4	Tim 53300H	SF	H	4.85-6.6	Tim 30000H	L4IH	275	545	C	TX	81	8x3 1/2 x 1/4	T
37	308	2 1/2-3 1/2	1385	163	190	15000	4200	6.50/20D	8.25/20	Wau 6BM	6-3 5/8 x4 1/4	263	5.1	175	78-3000	7-2 3/8 x10 1/4	N	WG T9	4	Tim 54410H	SF	H	5.83-6.8	Tim 31000H	L4IHV	355	635	C	TX	81	8x3 1/2 x 1/4	T
38	408	3-4	1900	163	190	17000	5000	7.50/20D	9.00/20	Wau 6BK	6-3 3/4 x4 1/4	282	5.1	190	85-3200	7-2 5/8 x10 1/4	N	BL 2341	4	Tim 56200H	SF	H	7.4-6.16	Tim 32502H	L4IHV	328	755	C	TX	81	8x3 1/2 x 1/4	T
39	507	4-5	2350	163	190	19500	6000	8.25/20D	9.75/20	Wau 6MK	6-4 1/2 x4 1/4	381	4.8	254	85-2400	7-2 5/8 x12 1/2	N	Cla 270VO	5	Tim 58300H	SF	H	6.14-7.8	Tim 32502H	L4IHV	385	814	C	TD	81	9x4x 1/4	TF
40	508	4-5	2500	163	190	19500	6000	8.25/20D	9.75/20	Wau 6-110	6-4x4 3/4	358	5.1	254	110-2800	7-2 1/4 x12 1/2	N	Cla 270VO	5	Tim 58300H	SF	H	6.14-7.8	Tim 32502H	L4IHV	385	814	C	TD	81	9x4x 1/4	TF
41	510	4-5	2700	163	190	19500	6000	8.25/20D	9.75/20	Wau 6-110	6-4x4 3/4	358	5.1	254	110-2800	7-2 5/8 x12 1/2	N	Cla 270VO	5	Tim 58300H	SF	H	6.14-7.8	Tim 32502H	L4IHV	385	814	C	TD	81	9x4x 1/4	TF
42	607	5-6	3250	163	190	24000	7000	9.00/20D	9.75/20	Wau 6SRL	6-4 5/8 x5 1/4	462	5.1	300	102-2400	7-3x13 3/4	Y	BL 5351	4	Tim 65725H	WF	H	6.0-7.75	Tim 35000H	L4IHV	462	825	C	TD	81	9x4x 1/4	TF
43	....(c.o.e.) 1100	Tractor	6500	166	137	.....	9300	9.75/20D	10.50/20	Wau 6RB	6-5x5 1/4	677	4.6	460	127-2000	4-3 1/2 x11 3/4	Y	BL 7341	4	Tim 66725W	WF	H	9.0-10.2	Ti 26050TW	Ws4IA	876	1050	C	TD	60	9x4x 1/4	TF
44	....(c.o.e.) 218	2 1/2	1400	111	Op	15000	3500	6.50/20D	8.25/20	Wau 6BL	6-3 1/2 x4 1/4	245	5.1	165	73-3000	7-2 5/8 x10 1/4	N	Cla 185	4	Tim 53300H	SF	H	4.85-6.6	Tim 32502H	L4IH	264	635	a	TX	92	8x3 1/2 x 1/4	T
45	....(c.o.e.) 318	3	1525	111	Op	16800	4200	6.50/20D	34x7	Wau 6BM	6-3 5/8 x4 1/4	263	5.1	175	78-3000	7-2 3/8 x10 1/4	N	Cla 185	4	Tim 54412H	SF	H	5.83-6.8	Tim 32502H	L4IHV	328	635	a	TX	92	8x3 1/2 x 1/4	T
46	....(c.o.e.) 418	3 1/2	2200	111	Op	19200	5000	7.50/20D	9.00/20	Wau 6BK	6-3 3/4 x4 1/4	282	5.1	190	85-3200	7-2 5/8 x10 1/4	N	Cla 200VO	5	Tim 56410H	SF	H	6.16-7.4	Tim 32502H	L4IHV	338	755	a	TX	92	8x3 1/2 x 1/4	T
47	....(c.o.e.) 518	4	2625	111	Op	24000	6000	8.25/20D	9.75/20	Wau 6MK	6-4 1/2 x4 3/4	381	4.8	254	85-2400	7-2 5/8 x12 1/2	N	Cla 270VO	5	Tim 58300H	SF	H	6.14-7.8	Tim 35000H	L4IHV	384	815	a	TX	92	9x4x 1/4	TF
48	Mack, Jr. (11)2M4A	.....	635	114	120	4500	2880	6.00/16S	6.50/16	Own MR140	4-3 1/8 x4 3/8	140	5.4	98	45-2800	3-2 1/4 x4 1/16	N	WG 84C	3	Own MR45	8 1/2	H	4.55-4.90	Own MR2	L4IH	198	242	C	TX	38 1/4	5 7/8 x2 1/4 x 3/8	C
49	.....(11)2M6A	.....	675	114	120	4500	2975	6.00/16S	6.50/16	Own MR209	6-3 1/8 x4 3/8	209	5.4	144	72-3000	4-2 1/4 x5 1/16	N	WG 84C	3	Own MR45	SF	H	4.55-4.90	Own MR2	L4IH	198	242	C	TX	38 1/4	5 7/8 x2 1/4 x 3/8	C
50	.....(11)2M6AS	.....	750	114	120	5000	3180	6.50/16S	7.00/16	Own MR209	6-3 1/8 x4 3/8	209	5.4	144	72-3000	4-2 1/4 x5 1/16	N	WG 86	3	Own MR5	SF	H	**5.10	Own MR2	L4IH	213	327	C	TX	38 1/4	5 7/8 x2 1/4 x 3/8	C
51	.....102M	.....	875	108	139	8000	3060	6.00/20IS	7.50/20	Own MR209	6-3 1/8 x4 3/8	209	5.1	132	48-3000	4-2 1/4 x5 1/16	N	OwnMR1B	4	Own MR8	SF	H	5.28-6.6	Own MR10	L4IH	289	366	C	TX	55	7 1/8 x2 3/8 x 3/8	C
52	.....11M	.....	745	139	190	11000	3205	6.00/20†S	7.50/20	Own MR209	6-3 1/8 x4 3/8	209	5.4	144	72-3000	4-2 1/4 x5 1/16	N	OwnMR1B	4	Own MR11	SF	H	5.28-6.6	Own MR11	L4IH	289	366	C	TX	57 1/2	7 1/8 x2 3/8 x 3/8	C
53	.....21M	.....	915	139	190	12000	3600	6.00/20D	7.50/20	Own MR228	6-3 5/8 x4 1/4	228	5.4	150	74-3000	7-2 5/8 x10 1/16	N	OwnMR1D	4	Own MR12	SF	H	5.28-6.6	Own MR21	L4IH	289	366	C	TX	57 1/2	7 1/8 x2 3/8 x 3/8	C
54	.....(12) 21MT	.....	1425	105	190	13000	4000	6.00/20D	8.25/20	Own MR228	6-3 5/8 x4 1/4	228	5.4	150	74-3000	7-2 5/8 x10 1/16	N	Own MR1D	4	Own MR13	SF	H	5.28-6.6	Own MR21	L4IHV	289	366	e	TX	61	7 1/8 x3 1/4 x 1/4	C
55	.....31M	.....	1225	142	190	14500	4200	6.50/20D	8.25/20	Own MR268	6-3 5/8 x5	268	5.2	175	85-3000	7-2 5/8 x10 1/16	N	OwnMR2B	4	Own MR145	SF	H	5.28-6.6	Own MR31	L4IHV	349	523	C	TX	60 1/2	7 1/8 x3 1/4 x 1/4	C
56	.....31MDR	.....	1345	142	190	14500	4370	6.50/20D	8.25/20	Own MR268	6-3 5/8 x5	268	5.2	175	85-3000	7-2 5/8 x10 1/16	N	OwnMR2B	4	Ow MRdr145	2F	H	6.62-8.21	Own MR31	L4IHV	349	523	C	TX	60 1/2	7 1/8 x3 1/4 x 1/4	C
57	.....(12) 31MT	.....	1675	105	190	15000	4200	6.50/20D	8.25/20	Own MR268	6-3 5/8 x5	268	5.2	175	85-3000	7-2 5/8 x10 1/16	N	Own MR2B	4	Own MR15	SF	H	5.28-6.6	Own MR31	L4IHV	349	523	e	TX	61	7 1/8 x3 1/4 x 1/4	C
♦ 58	Mack..(a)....EE	.....	985	133	175	12000	4650	6.00/20S	7.50/20	Own FO	6-3 1/2 x4 3/8	253	5.7	160	75-2800	7-2 5/8 x12	N	WG	4	Tim	SF	H	5.14-5.66	Tim	L4IH	296	478	a	TX	60	7 1/8 x3x 1/4	T
♦ 59	.....EF	.....	1195	133	192	14000	4900	6.00/20D	8.25/20	Own FM	6-3 5/8 x4 3/8	271	5.7	178	78-2800	7-2 5/8 x12	N	WG	4	Tim	SF	H	4.85-6.80	Tim	L4IHV	325	528	a	TX	60	7 1/8 x3x 1/4	T
60	.....EJ	.....	1625	158	194	16000	5350	6.50/20D	8.25/20	Own EJ	6-3 1/2 x5	288	5.1	190	84-2800	7-2 5/8 x10 11/16	N	Fu	5	Tim	SF	H	4.86-6.80	Tim	L4IHV	329	650	a	TX	84	8x3 1/4 x 1/4	T
61	.....EH	.....	2095	158	194	18000	6000	7.00/20D	9.00/20	Own BG	6-3 5/8 x5	310	5.4	202	90-3000	7-2 5/8 x10 3/16	Y	Fu	5	Tim	SF	H	4.44-7.40	Tim	L4IHV	370	686	a	TX	84	8 1/2 x3 1/4 x 1/4	T
62	.....ER	.....	2950	146	194	.....	7350	8.25/20D	9.75/20	Own BG	6-3 5/8 x5	310	5.4	202	90-3000	7-2 5/8 x10 3/16	Y	Fu	5	Own AB	CD	R	7.7-13.1	Tim	O4IMV	441	735	a	TX	84	8 1/2 x3 1/4 x 1/4	T
63	.....EM	.....	2950	158	194	20000	7350	7.50/20D	9.75/20	Own BG	6-3 5/8 x5	310	5.4	202	90-3000	7-2 5/8 x10 3/16	Y	Own BF	5	Own EM	SF	H	5.43-6.33	Own EM	O4IMV	468	750	a	TX	84	9 1/8 x3 1/4 x 3/8	T
64	.....BF	.....	4200	144	210	.....	8100	8.25/20D	9.75/22	Own CU	6-3 7/8 x5	354	4.9	237	100-2800	7-2 5/8 x10 3/16	Y	Own BF	5	Own AB	CD	R	9.3-13.0	Own BF	O4IMV	563	920	a	TX	72 1/2	8 1/2 x3 3/4 x 1/4	T
65	.....EQ	.....	3450	158	194	23000	7650	8.25/20D	9.75/20	Own CU	6-3 1/2 x5	354	4.9	237	100-2800	7-2 5/8 x10 3/16	Y	Own BF	5	Own FD	2F	H	6.31-8.64	Own EQ	O4IMV	468	750	a	TX	84	9 1/8 x3 1/4 x 3/8	T
66	.....BM	.....	4250	175	211	.....	9175	9.00/20D	10.50/20	Own CE	6-4x5 1/4	415	5.0	270	108-2400	7-3x12 1/8	Y	Own CF	5	Own FD	2F	H	6.31-8.64	Own BM	O4IMV	562	920	a	TX	102 1/2	8 1/2 x3 3/4	T
67	.....BX	.....	5250	189	225	.....	10925	9.75/22D	11.25/24	Own CF	6-4 1/4 x5 1/2	468	5.0	310	118-2400	7-3x12 1/8	Y	Own CF	5	Own FE	2F	H	6.46-9.05	Own BX	O4IMV	690	976	a	TX	120	9 1/2 x3 3/4	T
68	.....BX	.....	6250	189	225	.....	11200	9.75/22D	11.25/24	Own CF	6-4 1/4 x5 1/2	468	5.0	310	118-2400	7-3x12 1/8	Y	Own CF	5	Own BX	CD	R	6.0-9.67	Own BX	O4IMV	649	976	a	TX	120	9 1/2 x3 3/4	T
69	.....FH	.....	8000	160	272	.....	13300	10.50/24D	12.00/24	Own CF	6-4 1/4 x5 1/2	468	5.0	310	118-2400	7-3x12 1/8	Y	Own BX	4	Own FH	CD	R	7.48-12.4	Own BQ	O4IA	781	1194	a	J	91	10 1/2 x3 1/8	T
70	.....BQ	.....	7600	194	230	.....	12500	10.50/24D	11.25/24	Own BQ	6-4 3/4 x5 3/4	611	4.8	390	125-2200	4-3 1/2 x10 1/16	Y	Own AK	4	Own BQ	2F	H	7.43-10.0	Own BQ	O4IMV	781	1194	a	FX	120	10 1/2 x3x 1/4	T
71	.....AK	.....	7600	186	240	.....	12700	10.50/24D	11.25/24	Own BQ	6-4 3/4 x5 3/4	611	4.8	390	125-2200	4-3 1/2 x10 1/16	Y	Own AK	4	Own BQ	2F	H	7.43-10.0	Own AK	O4IA	781	1194	a	FX	102	8 5/8 x3x 1/4	T
72	.....AC	.....	6150	192	228	.....	13425	36x6†D	13.50/24	Own AC	4-5x6	471	3.9	300	74-1600	3-3x10 1/2	Y	Own AC	4	Own AC	CD	R	8.95-11.5	Own AK	O4IMV	781	1194	a	T	120	8 5/8 x3x 1/4	T
73	.....AC	.....	8250	186	240	.....	14200	10.50/24D	13.50/24	Own BQ	6-4 3/4 x5 3/4	611	4.8	390	125-2200	4-3 1/2 x10 1/16	Y	Own AC	4	Own AC	CD	R	8.95-11.5	Own AK	O4IA	781	1194	a	T	102	8 5/8 x3x 1/4	T
74	.....AP	.....	9000	191	216	.....	14500	36x7†D	13.50/24	Own AP	6-5x6	707	4.8	427	138-1900	4-3 1/2 x11 1/16	Y	Own AC	4	Own AC	CD	R	8.95-11.5	Own AK	O4IA	781	1194	a	T	102	8 5/8 x3x 1/4	T
75	..(12) (e.b.s.) EC	.....	3600	117	171	20000	7200	7.50/20D	9.00/20	Own BG	6-3 5/8 x5	310	5.4	202	90-3000	7-2 5/8 x10 3/16	Y	Own BF	5	Own EM	SF	H	5.43-6.33	Own EC	O4IMV	468	704	a	TX	93	8 1/8 x3x 1/4	T
76	..(12) (e.b.s.) EB	.....	4250	117	171	23000	7900	8.25/20D	9.75/20	Own CU	6-3 1/2 x5	354	5.9	237	100-2800	7-2 5/8 x10 3/16	Y	Own BF	5	Own FD	2F	H	6.31-8.64	Own EB	O4IMV	468	709	a	TX	93	8 1/2 x3x 1/4	T
77	..(12) (e.b.s.) CH	.....	5150	135	189	.....	10225	9.00/20D	10.25/20	Own CE	6-4x5 1/2	415	5	0 270	108-2400	7-3x12 1/8	Y	Own C

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Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight with Max. Tires	Chassis Wt. (Stripped)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Tire Size Furnished	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Spd's	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operat'n	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimension (Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
♦ 1	Ward.....125	3-4	3654	187	200	21000	7200	9.00/20D	9.75/20	Wau MZ	6-4¼x4¾	404	5.7	254	85–2500	7-2⅝x12½	Y	Fu 5A430	5	Tim 58205H	SF	R	5.25–7.80	Tim 33000H	L4IHV	384	694	a	TD	108½	12x3¼	B
♦ 2	LaFrance(D)127D	3-4	5655	187	215	21000	7500	9.00/20D	9.75/20	Bud 415	6-4x5½	415	12	308	105–2200	7-3x11½	Y	Fu 5A430	5	Tim 58205H	SF	R	5.25–7.80	Tim 33000H	L4IHV	384	694	a	TD	108½	12x3¼	T
♦ 3	131	5	4460	204	215	26000	7300	9.75/20D	10.50/20	Wau MZ	6-4¼x4¾	404	5.7	254	85–2500	7-2⅝x12½	Y	Fu 5A430	5	Wis 1337BH	2F	R	5.6–9.4	Shu 15682B	L4IHV	488	792	a	CD	125	12x3¼	T
4	136	5–6	4961	204	215	26000	8700	9.75/20D	10.50/20	Wau SRL	6-4⅜x5½	462	4.6	300	102–2200	7-3x13½	Y	Fu 5A620	5	Wis 1337BH	2F	R	5.6–9.4	Shu 15682B	L4IHV	488	792	a	CD	125	12x3¼	T
5	.....137D	5–6	6681	204	215	26000	9000	9.75/20D	10.50/20	Bud 468	6-4¼x5½	468	13	346	118–2200	7-3x11½	Y	Fu 5A620	5	Wis 1337BH	2F	R	5.6–9.4	Shu 15682B	L4IHV	488	792	a	CD	125	12x3¼	T
6	.....138D	5–6	7414	204	215	26000	9000	9.75/20D	10.50/20	Her DRXB	6-4⅜x5¼	474	14	350	120–2000	7-3½x3¼	Y	Fu 5A620	5	Wis 1337BH	2F	R	5.6–9.4	Shu 15682B	L4IHV	488	792	a	CD	125	12x3¼	T
7	156	7½	6250	218	230	32000	10000	10.50/20D	10.50/24	Wau 6-125	6-4⅜x5½	462	5.0	324	125–2600	7-3x13⅞	Y	Fu 5A620	5	Wis 1747KW	2F	R	6.0–9.2	Shu15693WB	Ws4IA	547	867	a	CD	139	12x3¼	T
8	.....335RWS	7½	5450	205	224	26000	9360	9.75/24D	10.50/20	Wau SRL	6-4⅜x5½	462	4.6	300	102–2400	7-3x13⅞	Y	Fu 5A620	4	Tim 65720W	WF	R	5.2–9.25	Tim35100TW	Ws4IA	617	867	a	TD	115¾	14x3x¼	B
9	.....55RH	7½	5350	218	230	32000	10500	10.50/20D	10.50/24	Wau SRK	6-4⅜x5½	517	4.6	330	110–2300	7-3x13⅞	Y	Fu MRU	4	Tim 76733	2F	R	6.0–9.2	Tim 26452	L4IHV	560	867	a	CD	139	12x3¼	T
10	.....156D	7½	8159	218	230	32000	10500	10.50/20D	10.50/24	Her DRXB	6-4⅜x5¼	474	14	350	120–2000	7-3½x3¼	Y	Fu 5A602	5	Wis 1747KW	2F	R	6.0–9.2	Shu15693WB	Ws4IA	547	867	a	CD	139	12x3¼	T
11	.....50D	7½–10	5975	159	173	36000	11000	40x8D	40x8	Wau SRL	6-4⅜x5½	462	4.6	300	102–2400	7-3x13⅞	Y	BL 7241	4	Tim 68702D	WF	R	8.75–11.6	Tim 16302	T2IMV	4470	517	a	TD	88	14x3¼x¼	
12	.....176D	15	8269	218	230	32000	11000	10.50/20D	10.50/24	Cu. Die. HB	6-4⅝x6	672	17	420	125–1800	7-3¾x16½	Y	Cla 710	5	Wis 1747KW	2F	R	6.0–9.2	Shu 15693W	Ws4IA	547	867	a	CD	139	12x3¼	T
13	.....201D	20	8591	218	230	38000	12000	10.50/20D	11.25/24	Cu. Die. HB	6-4⅞x6	672	17	420	125–1800	7-3¾x16½	Y	Cla 710	5	Wis 1910KW	2F	R	6.0–9.2	Shu15693WB	Ws4IA	547	867	a	CD	139	12x3¼	T
14	.....(c.o.e.) H	3-4	4436	132	Op	21000	8000	9.00/20D	9.75/20	Wau MZ	6-4¼x4¾	404	5.7	254	85–2500	7-2⅜x12½	Y	Fu 5A380	5	Tim 58205H	SF	R	5.25–7.80	Shu 672B1	L4IHV	497	786	a	CD	106	12x3¼	T
15	.....(c.o.e.) J	5	5138	132	Op	26000	8500	9.75/20D	10.50/20	Wau MZ	6-4¼x4¾	404	5.7	254	85–2500	7-2⅜x12½	Y	Fu 5A380	5	Wis 1337BH	2F	R	5.6–9.4	Shu 672B1	L4IHV	376	817	a	CD	106	12x3¼	T
16	.....(c.o.e.) K	5–6	5925	146	Op	28000	9200	9.75/20D	10.50/20	Wau SRL	6-4⅜x5½	462	4.6	300	102–3200	7-3x13½	Y	Fu 5A620	5	Wis 1337BH	2F	R	5.6–9.4	Shu 672B1	L4IHV	376	817	a	CD	122	12x3¼	T
17	.....(c.o.e.) L	7½	6984	146	Op	32000	10500	10.50/20D	10.50/24	Wau SRK	6-4⅜x5½	517	4.6	330	110–2300	7-3x13⅞	Y	Fu 5A620	5	Wis 1747KW	2F	R	6.0–9.2	Shu 673B12	Ws4IA	547	867	a	CD	122	12x3¼	T
♦ 18	.....(c.o.e.) LD	15	9144	146	Op	32000	11500	10.50/20D	10.50/24	Cu. Die. HB	6-4⅞x6	672	17	420	125–1800	7-3¾x16½	Y	Cla 710	5	Wis 1747KW	2F	R	6.0–9.2	Shu 673B12	Ws4IA	547	867	a	CD	122	12x3¼	T
♦ 19	.....(c.o.e.) MD	20	9399	146	Op	40000	12500	10.50/20D	11.25/24	Cu. Die. HB	6-4⅞x6	672	17	420	125–1800	7-3¾x16½	Y	Cla 710	5	Wis 1910W	2F	R	6.0–9.2	Shu 673B12	Ws4IA	547	867	a	CD	122	12x3¼	T
20	White.....700P	¾	(23)	136	...	.....	3350	6.50/20S	7.50/20	Own 250	6–3 1/16 x4½	250	5.8	175	68–2600	7-2⅞x10.7	Y	Own 45B	4	Own 36C	SF	H	4.85–6.80	Own 32D	L4IH	296	477	a	TX	60¼	7 11/16 x3x 1/16	T
♦ 21	700	1–2	1095	136	196	.....	4148	6.50/20S	7.50/20	Own 250	6–3 1/16 x4½	250	5.8	175	68–2600	7-2⅞x10.7	Y	Own 45B	4	Own 36C	SF	H	4.85–6.80	Own 32D	L4IH	296	477	a	TX	60¼	7 11/16 x3x 1/16	T
♦ 22	.....700A	1½–3	1190	136	196	.....	4520	6.50/20D	7.50/20	Own 250	6–3 1/16 x4½	250	5.8	175	68–2600	7-2⅞x10.7	Y	Own 45B	4	Own 36C	SF	H	4.85–6.80	Own 32D	L4IH	296	477	a	TX	60¼	7 11/16 x3x 1/16	T
♦ 23	.....700H	1½–4	1390	136	196	.....	4610	7.00/20D	7.50/20	Own 250	6–3 1/16 x4½	250	5.8	175	68–2600	7-2⅞x10.7	Y	Own 45B	4	Own 46C	SF	H	4.86–6.80	Own 32D	L4IHV	296	478	a	TX	60¼	7 11/16 x3x 1/16	T
♦ 24	703	1–2	1450	136	178	.....	4450	7.00/20S	8.25/20	Own 270	6–3 1/16 x4½	270	5.5	195	83–2800	7-2⅞x10.7	Y	Own 28B	4	Own 25C	SF	H	5.10–6.86	Own 22D	L4IHV	308	460	a	TX	60¼	7x2 13/16 x x 1/16	T
♦ 25	704	1½–4	1550	136	226	.....	4740	7.00/20D	8.25/20	Own 270	6–3 1/16 x4½	270	5.5	195	83–2800	7-2⅞x10.7	Y	Own 28B	4	Own 25C	SF	H	5.10–6.86	Own 22D	L4IHV	308	460	a	TX	60¼	7x2 13/16 x x 1/16	T
♦ 26	.....704K	(*)	2050	136	160	.....	5520	7.00/20D	9.00/20	Own 303	6–3 1/16 x4½	303	5.5	215	92–2800	7-2⅞x10.7	Y	Own 54B	4	Own 33C	SF	H	5.22–7.14	Own 22D	L4IHV	465	696	a	TX	60¼	7x2 13/16 x x 1/16	T
♦ 27	.....704A	2–5	1670	136	226	.....	4855	7.50/20D	8.25/20	Own 270	6–3 1/16 x4½	270	5.5	195	83–2800	7-2⅞x10.7	Y	Own 28B	4	Own 25C	SF	H	5.10–6.86	Own 22D	L4IHV	308	460	a	TX	60¼	7x2 13/16 x x 1/16	T
♦ 28	709	1½–4	2150	136	226	.....	5543	7.50/20D	9.00/20	Own 303	6–3 3/16 x4½	303	5.5	215	92–2800	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 22D	L4IHV	465	696	a	TX	60¼	7 1/16 x3x¼	T
♦ 29	.....709A	3–6	2315	136	226	.....	5657	8.25/20D	9.00/20	Own 303	6–3 3/16 x4½	303	5.5	215	92–2800	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 22D	L4IHV	465	696	a	TX	60¼	7 1/16 x3x¼	T
♦ 30	710	2–4½	2450	136	226	.....	5959	7.50/20D	9.00/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 19D	L4IHV	525	824	a	TX	60¼	7 1/16 x3x¼	P
♦ 31	.....710A	3–6½	2615	136	226	.....	6075	8.25/20D	9.75/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 19D	L4IHV	525	824	d	TX	60¼	7 1/16 x3x¼	T
♦ 32	712	3–5	2750	130	226	.....	6500	8.25/20D	9.75/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10 11/16	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 19D	L4IHV	525	824	a	TX	60	8x3x¼	T
♦ 33	.....712A	4–7	2915	130	226	.....	6600	9.00/20D	9.75/22	Own 318	6–3⅞x4½	318	5.5	234	9 1/16 2600	7-2⅞x10 11/16	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 19D	L4IHV	525	824	a	TX	60	8x3x¼	T
♦ 34	718	3–6	3175	130	226	.....	6830	9.00/20D	9.75/22	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10 11/16	Y	Own 54B	5	Own 26C	2F	R	7.23–8.73	Own 16D	L4IHV	492	772	a	TX	60	8x3x¼	TL
♦ 35	.....718A	4½–8	3395	130	226	.....	7300	9.75/20D	10.50/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10 11/16	Y	Own 54B	5	Own 26C	2F	R	7.23–8.95	Own 16D	L4IHV	492	772	a	TX	60	8x3x¼	TL
♦ 36	640		6200	180	214	.....	10185	9.00/20D	9.75/20	Own 580	6–4⅝x5¾	580	4.6	385	130–2300	7-3x15 11/16	Y	Own 10B	5	Own 10C	SF	R	5.22–6.29	Own 6D	O4IA	553	832	a	CI	92½	8½x3 1/16 x x 1/16	T
♦ 37	.....640K		6400	180	214	.....	10365	9.00/20D	10.50/20	Own 580	6–4⅝x5¾	580	4.6	385	130–2300	7-3x15 11/16	Y	Own 10B	5	Own 10C	SF	R	5.22–6.29	Own 9D	O4IA	591	832	a	CI	107	8½x3 1/16 x x 1/16	T
♦ 38	.....(c.o.e.) 730		6100	108	180	.....	10940	9.75/20D	9.75/24	Own 505	12–3 11/16 x3 11/16	505	6.2	343	143–2800	7-2⅞x13¾	Y	Own 24C	SF	R	5.22–7.14	Own 20D	O4IA	632	933	a	TD	138	8x3½x¾	C
♦ 39	720	5–9	4500	134	212	.....	8200	9.00/20D	10.50/22	Own 434	6–4 1/16 x5¼	434	5.0	295	116–2400	7-2¾x13½	Y	Own 36B	5	Own 43C	2F	R	7.23–8.73	Own 24D	L4IHV	560	875	a	TD	60	8½x3 1/16 x x 1/16	TF
♦ 40	.....720T		4500	134	158	.....	8100	9.00/20D	10.50/22	Own 460	6–4 1/16 x5¼	460	5.0	320	123–2400	7-2¾x13½	Y	Own 36B	5	Own 43C	2F	R	7.23–8.73	Own 24D	L4IHV	560	875	a	TD	60	8x3x¼	
♦ 41	.....722X	10	6825	212	212	.....	11000	10.50/24D	10.50/24	Own 529	6–4⅝x5¼	529	5.0	365	130–2400	7-2¾x13 3/16	Y	Own 36BE	4	Own 45C	2F	R	6.67–9.50	Own 9D	O4IA	633	1050	a	TX	138	8¼x3 1/16 x x 3/16	T
♦ 42	641		6550	157	214	.....	10460	9.75/20D	10.50/20	Own 580	6–4⅝x5¾	580	4.6	385	130–2300	7-3x15 11/16	Y	Own 10B	5	Own 2C	2F	R	5.76–10.0	Own 9D	O4IA	633	996	a	CI	91¾	8½x3 1/16 x x 1/16	T
♦ 43	.....(18)..641K		6750	157	214	.....	10800	9.75/20D	10.50/24	Own 580	6–4⅝x5¾	580	4.6	385	130–2300	7-3x15 11/16	Y	Own 10B	5	Own 2C	2F	R	5.76–10.0	Own 9D	O4IA	633	996	a	CI	107	8½x3 1/16 x x 1/16	T
♦ 44	.....(c.o.e.) 731		6900	108	180	.....	11360	10.50/20D	11.25/22	Own 505	12–3 11/16 x3 11/16	505	6.2	343	143–2800	7-2⅞x13¾	Y	Own 24BA	5	Own 45C	2F	R	6.67–9.50	Own 20D	O4IA	632	1050	a	TD	138	8x3½x¼	
♦ 45	722	8–10	5500	134	212	.....	9300	9.75/20D	11.25/22	Own 529	6–4⅝x5¼	529	5.0	365	130–2400	7-2¾x13 1/8	Y	Own 36B	5	Own 45C	2F	R	6.67–9.50	Own 6D	O4IA	632	1050	a	TD	60	8¼x3 1/16 x 3/16	TF
♦ 46	642		6850	157	214	.....	11335	9.75/24D	10.50/24	Own 580	6–4⅝x5¾	580	4.6	385	130–2300	7-3x15 11/16	Y	Own 10B	5	Own 13C	2F	R	6.72–11.6	Own 9D	O4IA	623	1044	a	CI	91¾	8½x3 1/16 x x 1/16	C
♦ 47	643		7050	157	214	.....	11665	10.50/24D	11.25/24	Own 580	6–4⅝x5¾	580	4.6	385	130–2300	7 3/16 x15 11/16	Y	Own 10B	5	Own 13C	2F	R	6.72–11.6	Own 9D	O4IA	623	1044	a	CI	91¾	8½x3 1/16 x x 1/16	C
♦ 48	691		7350	129	129	.....	12200	10.50/24D	11.25/24	Own 580	6–4⅝x5¾	580	4.6	385	130–2300	7-3x15 11/16	Y	Own 10BB	5	Own 13CB	2F	R	6.72–11.6	Own 13D	O4IA	623	1044	a	TD	65	8¼x3 1/16 x 3/16	C
♦ 49	.....632X	10	6700	215	Op	.....	11000	10.50/24D	9.75/20	Own 434	6–4 1/16 x5¼	434	5.0	295	116–2400	7-2¾x13½	Y	Own 4B	4	Own 13C	2F	R	6.72–11.6	Own 9D	O41A	623	1044	a	CI	100	8¼x3 1/16 x 3/16	C
♦ 50	.....720A	5–9½	4720	134	212	.....	8600	9.75/20D	10.50/22	Own 434	6–4 1/16 x5¼	434	5.0	295	116–2400	7-2¾x13½	Y	Own 36B	5	Own 43C	2F	R	7.23–8.73	Own 24D	L4IHV	560	875	A	TD	60	8½x3 1/16 x x 1/16	TF
♦ 51	.....722A	8–10	5840	134	212	.....	9800	10.50/20D	11.25/22	Own 529	6–4⅝x5¼	529	5.0	365	130–2400	7-2¾x13 1/8	Y	Own 36B	5	Own 45C	2F	R	6.67–9.50	Own 9D	O4IA	632	1050	A	TD	60	8¼x3 1/16 x 3/16	TF
♦ 52	.....(c.o.e.) 805	1½–3	1850	97	193	.....	4895	7.00/20D	9.00/20	Own 270	6–3 1/16 x4½	270	5.5	195	83–2800	7-2⅞x10.7	Y	Own 44B	4	Own 37C	SF	H	5.14–6.83	Own 29D	L4IHV	368	587	a	TX	60	7x2 13/16 x 1/16	C
♦ 53	.....(c.o.e.) 809	1½–3	2350	97	193	.....	5643	7.50/20D	9.00/20	Own 303	6–3 3/16 x4½	303	5.5	215	92–2800	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 23D	L4IHV	525	824	a	TX	60	7 1/16 x3x¼	C
♦ 54	.....(c.o.e.) 810	2–4½	2650	97	193	.....	6010	7.50/20D	9.75/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 23D	L4IHV	525	824	a	TX	60	7 1/16 x3x¼	C
♦ 55	.....(c.o.e.) 812	3–5	2950	97	193	.....	6660	8.25/20D	9.75/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 30D	L4IHV	525	824	a	TX	60	8x3x¼	C
♦ 56	.....(c.o.e.) 818	3–6	3375	97	193	.....	7120	9.00/20D	9.75/22	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10.7	Y	Own 54B	5	Own 26C	2F	R	7.23–8.73	Own 28D	L4IHV	491	772	a	TX	60	8x3x¼	P
♦ 57	.....(c.o.e.) 805A	2–6	1970	97	193	.....	4970	7.50/20D	9.00/20	Own 270	6–3 1/16 x4½	270	5.5	195	83–2800	7-2⅞x10.7	Y	Own 44B	4	Own 37C	SF	H	5.14–6.83	Own 29D	L4IHV	368	587	a	TX	60	7x2 13/16 x 1/16	C
♦ 58	.....(c.o.e.) 809A	3–6½	2515	97	193	.....	5720	8.25/20D	9.00/20	Own 303	6–3 3/16 x4½	303	5.5	215	92–2800	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 23D	L4IHV	525	824	a	TX	60	7 1/16 x3x¼	C
♦ 59	.....(c.o.e.) 812A	4–7	3230	97	193	.....	6700	9.00/20D	9.75/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10.7	Y	Own 54B	5	Own 33C	SF	H	5.22–7.14	Own 30D	L4IHV	525	824	a	TX	60	8x3x¼	C
♦ 60	.....(c.o.e.) 818A	4½–8	3595	97	193	.....	7275	9.75/20D	10.50/20	Own 318	6–3⅞x4½	318	5.5	234	94–2600	7-2⅞x10.7	Y	Own 54B	5	Own 26C	2F	R	7.23–8.73	Own 28D	L4IHV	491	772	a	TX	60	8x3x¼	P
♦ 61	.....750T		3600	136	160	.....	7168	9.00/20D	10.50/22	Own 362	6–3⅞x5½	362	5.8	280	116–3000	7-3x10.8	N	Own 51B	5	Own 34C	SF	R	6.29–7.14	Own 16D	L4IHV	629	979	a	TX	60¼	8x3x¼	C
♦ 62	800	1½–2½	900	102	...	.....	2820	6.00/20S	7.50/20	Own 205	6–3¼x4⅛	205	5.8	135	61–3300	7-2½x10 1/16	Y	Own 60B	3	Own 48C	SF	H	5.14–5.66	Own 35D	L4IH	264	402	G	TX	....	6x2½x¼	C
♦ 63	802	1½–3	995	95	155	.....	4800	6.00/20D	7.50/20	Own 221	6–3⅜x4½	221	5.9	154	68–3000	7-2½x10 1/16	Y	Own 62B	4	.....	SF	H	5.80–6.80	Own 36D	L4IH	264	477	A	TX	60	7x2½x x	
♦ 64	.....704H	2–5	1650	136	226	.....	4858	7.00/20D	8.25/20	Own 270	6–3 1/16 x4½	270	5.5	195	83–2800	7-2⅞x10.7	Y	Own 28B	4	Own 37C	SF	H	5.10–6.83	Own 22D	L4IHV	308	460	a	TX	60¼	7x2 13/16 x x 1/16	C
♦ 65	750	4½–8	3600	136	226	.....	7552	9.00/20D	10.50/22	Own 362	6–3⅞x5½	362	5.8	280	116–3000	7-3x10.8	N	Own 51B	5	Own 43C	2F	R	7.23–8.73	Own 16D	L4IHV	510	843	a	TD	60¼	8½x3 1/16 x x 1/16	TL
♦ 66	.....*(c.o.e.) 820	5–9	5400	109	193	.....	8816	9.75/20D	10.50/22	Own 434	6–4 1/16 x5¼	434	5.0	295	116–2400	7-2¾x13½	Y	Own 58B	5	Own 43C	2F	R	7.23–8.73	Own 34D	L4IHV	510	843	a	TD	72	8½x3 1/16 x x 1/16	C
♦ 67	.....*(c.o.e.) 822	8–10	6400	109	193	.....	9403	10.50/20D	11.25/24	Own 529	6–4⅝x5¼	529	5.0	365	130–2400	7-2¾x13½	Y	Own 58B	5	Own 45C	2F	R	6.67–9.50	Own 34D	O4IA	603	961	a	TD	72	8½x3 1/16 x x 1/16	P
68	Willys...(21) SC38	1000lbs	330	100	100	3350	1300	5.50/16S	6.00/16S	Own 38	4-3¼x4⅜	134	5.7	100	48–3200	3-2.3x5.8	N	WG T82D	3	Sal 21–1	S	H	4.7–5.10	Own 38	B4IM	135	198	s	4	29⅜	3¾x1¾x 1/16	X
	Four-Wheel-Drive																														
69	Auto-(1)(d)4x4 DF	.....	5000	163	163	20000	8415	9.00/20D	9.00/20	Own 404	6–4¼x4¾	404	5.5	295	97–2200	7-3x14¾	Y	Own DF4	8	Tim 5002	2F	H	**7.35	Tim F501	T4IMV	417	659	c	2I	84½	9x3x¼	T
70	car..(d) 4x4 N	.....	6000	167	167	24000	9900	9.75/20D	9.75/20	Own 404	6–4¼x4¾	404	5.5	295	97–2200	7-3x14¾	Y	Own DF4	8	Tim 72000	2F	H	**7.27	Tim F213	T4IMV	568	866	c	2I	88½	9x3x¼	T
71	.....(d) 4x4 NF	.....	6750	168	168	26000	10915	9.75/20D	9.75/20	Own 453	6–4 1/16 x4¾	453	5.5	333	108–2200	7-3x14¾	Y	Own TF4	8	Tim 1337	2F	H	**7.52	Tim F313	T4IMV	639	975	c	2I	89½	10½x3x	T
72	.....(d) 4x4 S	.....	7250	168	168	30000	11145	10.50/20D	10.50/20	Own 501	6–4½x5¼	501	5.5	375	123–2200	7-3¼x14 11/16	Y	Own TF4	8	Tim 1337	2F	H	**7.52	Tim F313	T4IMV	639	975	c	2I	89½	10½x3x	T
73	Clydesdale 80 (4x4)	2½–4	6480	160	190	18000	5900	7.50/20D	9.00/20	Con E602	6–4 1/16 x4½	361	5.4	252	96–2500	7-2¾x12 13/16	Y	Cla 270V	5	Wis 5002L	W/2	H	.....	Wis F551H	L4IHV	335	782	A	CD	61	9¾x2¾x¼	T
74	..(D) 105D (4x4)	5–7	(23)	170	190	30000	10600	9.75/20D	12.00/20	Bud 6LD468	6–4¼x5½	468	12	342	118–2200	7-3x11½	Y	Fu 5A620	5	Wis 1737 KW	W/2	H	.....	Wis F417W	Ws4IA	654	1080	A	CD	71	10x3x	T
75	..(D) 90D (4x4)	4–5	(23)	160	190	23500	8700	9.00/20D	10.50/24	Bud 6LD415	6–4x5½	415	12	305	105–2200	7-3x11½	Y	Cla 270VO	5	Wis 1337BH	W/2	H	.....	Wis 313H	L4IHV	625	974	A	CD	61	9⅞x2¾x¼	T
76	..(D) 70D (4x4)	2½x3	(23)	160	190	18000	5900	7.50/20D	9.00/20	Bud 6LD275	6–3½x4¾	275	12	204	86–2600	7-3x11½	Y	Cla 200VO	5	Tim 59300H	W/2	H	.....	Wis F582H	L4IHV	335	782	A	CD	61	9¾x2¾x¼	T
77	Coleman.....E-52	2½	3905	120	144	12800	7200	9.00/24S	9.00/24	Bud K-393	6–4 A x4¾	393	4.9	260	103–2600	7-3x11½	Y	Fu RU16	4	Wis CR15	2F	H	4.66–8.05	Ow-Wis CF15	W2/4IH	245	434	G	TD	78	10x2½x¼	B
78	.....E-53	3½	5445	130	180	18600	8000	9.75/24S	9.00/24	Bud K-428	6–4¾x4¾	428	4.8	280	107–2600	7-3x11½	Y	Fu MRU16	4	Wis CR20	2F	H	4.66–8.05	Ow-Wis CF20	W2/4IH	263	543	G	TD	78	10x2½x¼	B

* White—Chassis price includes price of cab.

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Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight with Max. Tires	Chassis Wt. (Stripped)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Tire Size Furnished	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Spds'	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES: SERVICE: Make Location Type Operat'n	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Area	BRAKES: SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimension (Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
	Six-Wheelers (Continued) Wheels Driven																															
	Autocar (Con't).																															
1	6x4 TD 4R		8700	142	142	40000	14415	9.75/24D	9.75/24	Own 501	6-4½x5¼	501	5.5	375	123-2200	7-3¼x14	Y	Own TF4A3	12	Tim SDD352	2F	H	8.15-9.11	Tim 26452	T4IA	598	907	c	FD	62	9x3x¼	TL
2	6x4 TC 4R		9500	142	142	52000	15045	10.50/24D	10.50/24	Own 501	6-4½x5¼	501	5.5	375	123-2200	7-3¼x14	Y	Own TF4A3	12	Tim SDD452	2F	H	8.15-9.11	Tim 26452	T4IA	598	907	c	FD	62	10½x3x⅛	TL
3	(a) 6x2 UD 2F		4700	127	145	32000	10930	9.00/20D	9.75/20	Own 358	6-4x4¾	358	5.5	250	85-2300	7-3x12⅝	Y	Own UDF5	5	Own C	2F	H	7.20-9.43	Tim 35100	LO41DV	580	930	c	FD	102¼	8x3x¼	T
4	(a) 6x2 UN 2F		5200	128	163	36000	11660	9.00/20D	9.75/20	Own 404	6-4¼x4¾	404	5.5	295	97-2200	7-3x14⅜	Y	Own UDF5	5	Own C	2F	H	7.20-9.43	Tim 26452	LO41DV	580	930	c	FD	103¼	9x3x¼	T
5	(a) 6x2 UNF 2F		5500	128	163	40000	12290	9.75/20D	10.50/20	Own 453	6-4½x4¾	453	5.5	333	108-2200	7-3x14⅜	Y	Own UTF5	5	Own CG	2F	H	7.69-8.52	Tim 26452	TO41A	631	930	c	FD	120¼	10⅜x3x¼	T
6	(a) 6x2 UT 2F		5800	145	163	45000	13130	9.75/20D	10.50/20	Own 501	6-4½x5¼	501	5.5	375	123-2200	7-3¼x14	Y	Own UTF5	5	Tim SDD352	2F	H	8.15-9.11	Tim 26452	T4IA	598	907	c	FD	93¼	9x3x¼	TL
7	e. u. s. 6x4 UTO 4R		8500	118	118	40000	13590	9.75/20D	9.75/20	Own 501	6-4½x5¼	501	5.5	375	123-2200	7-3¼x14	Y	Own UTF5	5	Tim SDD352	2F	H	8.15-9.11	Tim 27452	T4IA	598	907	c	FD	84¼	9x3x¼	TL
8	6x4 UTD 4R		8750	109	109	48000	13490	9.75/24D	9.75/24	Own 501	6-4½x5¼	501	5.5	375	123-2200	7-3¼x14	Y	Own UTF5	5	Tim SDD352	2F	H	8.15-9.11	Tim 27452	T4IA	598	907	c	FD	84¼	9x3x¼	TL
9	Bro'kway180XSBT 5-7		4350	195	207	.....	9800	8.25/20D	9.00/22	Con 32B	6-4⅛x4½	361	5.4	252	95-2500	7-2⅝x13	Y	Fu 5A38	5	Tim 251SBT	SF	R	5.57-6.83	Shu 15695B1	L6IHV	685	1224	a	CD	125A	8¼x3x⅜	B
10	.180XSBT Spec. 5-7		4950	195	207	.....	10270	8.25/20D	9.00/22	Con 34B	6-4⅜x4½	427	4.2	308	118-2600	7-2¾x13A	Y	Fu 5A53	5	Tim 251SBT	SF	R	5.57-6.83	Shu 15695B1	L6IHV	685	1224	a	CD	125A	8¼x3x⅜	B
	Clydesdale																															
11	..(D) 300D (6x6) 7½-12		16750	192	220	50000	15100	10.50/20D	11.25/24	Bud 6LD691	6-4¾x6½	691	12	453	148-2000	7-3½x19½	Y	BL 7341	4	Tim SD452	2F	H	7.92-9.98	Wis F310W	Ws61A	104	1625	A	TD	80	12x3x¾	T
12	.....300 (6x6) 7½-12		14750	192	220	50000	14900	10.50/20D	11.25/24	Her HXC	6-5¼x6	779	4.5	506	168-2000	7-3½x12¼	Y	BL 7341	4	Tim SD452	2F	H	7.92-9.98	Wis F310W	Ws61A	104	1625	A	TD	80	12x3x⅜	T
13	Corbitt.168B2 2F 2½-4		2000	175	200	.....	5300	7.50/20D	7.50/20	Wau 6BK	6-3¾x4¼	282	5.4	190	80-2800	7-2⅝x10¼	N	Cla B116	5	Tim SBT75	SF	A	5.14-6.6	Tim 30020H	L6IHV	382	608	a	TX	Opt	7x3½x¼	T
14	.....24SB2 2F 4-6		3750	175	200	.....	7670	8.25/20D	8.25/20	Wau 6MK	6-4⅛x4¾	381	4.8	240	85-2400	7-2⅝x12½	N	Fu 5A430	5	Tim SBT151	SF	A	5.8-6.8	Tim 33000H	L6IHV	544	930	a	TD	Opt	8x3½x¼	T
15	.....30SB2 2F 6-8		4800	190	225	.....	9100	9.00/20D	9.00/20	Wau 6SRL	6-4⅜x5⅛	462	4.5	300	100-2200	7-3x13⅜	N	Fu 5A620	5	Tim SDT320	2F	A	5.28-7.4	Tim 33000H	L6IHV	636	1096	a	TD	Opt	8x3½x¼	T
16	.....36SD2 2F 8-10		5800	190	225	.....	10700	9.75/20D	9.75/20	Wau 6-125	6-4⅜x5⅛	462	5.2	330	125-2500	7-3x13⅜	N	Fu 5A620	5	Tim SD75	w/2	A	5.56-7.8	Tim 35000H	L61A	918	1306	a	TD	Opt	8x3½x¼	T
17	.....18SD4 4R 2½-4		3950	Op	Op	.....	5800	6.50/20D	7.50/20	Wau 6MK	6-4¼x4¾	381	4.8	240	85-2400	7-2⅝x12½	N	Fu 5A430	5	Tim SD151	w/2	A	5.14-6.6	Tim 33000H	L61HV	396	678	a	TX	Opt	7x3½x¼	T
18	.....26SD4 4R 4-6		5720	Op	Op	.....	9000	7.50/20D	9.00/20	Wau 6MZ	6-4¼x4¾	404	6.0	274	90-2400	7-2⅝x12½	N	Fu 5A430	5	Tim SD151	w/2	A	5.28-7.4	Tim 33000H	L61HV	574	930	a	TX	Opt	8x3½x¼	T
19	.....33SD4 4R 6-8		6380	Op	Op	.....	10000	8.25/20D	9.75/20	Wau 6SRL	6-4⅜x5⅛	462	4.5	300	100-2200	7-3x13⅜	N	Fu 5A620	5	Tim SD251	w/2	A	5.56-7.8	Tim 35000H	L61HV	636	1096	a	TD	Opt	8x3½x¼	T
20	.....40SD4 4R 8-10		8800	Op	Op	.....	11500	9.00/20D	10.50/22	Wau 6SRK	6-4⅝x5⅛	517	4.6	330	110-2200	7-3x13⅜	N	Fu 5A620	5	Tim SD452W	w/2	A	7.92-9.98	Tim27450TW	Ws61A	964	1516	a	TD	Opt	12¼x3¼x⅜	T
21	.....54SD4 4R 10-15		11000	Op	Op	.....	13000	9.75/20D	11.25/22	Wau 6-125	6-4⅜x5¼	462	5.2	330	125-2500	7-3x13⅜	N	Fu 5A620	5	Tim SD75	2F	A	5.14-6.6	Wis F75AB	L6IHV	396	678	a	TX	Opt	8x3½x¼	T
22	.....18SD6 6 2½-4		5500	Op	Op	.....	7300	6.50/20D	7.50/20	Wau 6MZ	6-4¼x4¾	404	6.0	274	90-2400	7-2⅝x12½	N	Fu 5A430	5	Tim SD151	2F	A	5.28-7.4	Wis F211	Ws61A	638	1139	a	TD	Opt	8x3½x¼	T
23	.....26SD6 6 4-6		7500	Op	Op	.....	8200	7.50/20D	9.00/20	Wau 6SRK	6-4⅝x5⅛	462	4.5	300	100-2200	7-3x13⅜	N	Fu 5A620	5	Tim SD251	2F	A	5.56-7.8	Wis F211	Ws61A	852	1305	a	TD	Opt	8x3½x¼	T
24	.....40SD6 6 6-8		8900	Op	Op	.....	11700	8.25/20D	9.75/20	Wau 6RB	6-5x5¾	677	4.4	440	125-1800	4-3½x11⅜	N	Fu MHU	4	Tim SD352W	2F	A	6.85-9.41	Wis F311	Ws61A	1084	1625	a	TD	Opt	12¼x3¼x⅜	T
25	.....54SD6 6 8-10		12300	Op	Op	.....	14662	9.00/20D	11.25/22	Wau 6RB	6-5x5⅜	677	4.4	440	125-1800	4-3½x11⅜	N	Fu MHU	4	Tim SD452W	2F	A	7.92-9.98	Wis F311W	Ws61A	1084	1625	a	TD	Opt	12¼x3¼x⅜	T
26	.....54SD6 6 10-15		16900	Op	Op	.....	15400	9.75/22D	10.50/22	Her HXC	6-5¼x6	779	4.5	508	164-2000	7-3½x17	N	BL 7341	4	Tim SD452W	2F	A	7.92-9.98	Wis F311W	Ws61A	1084	1625	a	TD	Opt	12¼x3¼x⅜	T
27	Day-Elder 151T 2R 3		1755	156	199	15000	5300	6.00/20D	8.25/20	Her JXB	6-3⅝x4¼	263	4.4	164	68-2800	7-2½x10½	Y	WG T9	4	TimSBT75H	BF	H	4.56-6.6	Tim 30000H	L6IHV	422	606	a	XF	77½	7x3½x¼	C
28	.....211T 2R 4		2235	156	199	21000	6400	32x6D	32x6	Her JXC	6-3¾x4¾	282	4.4	176	73-2800	7-2½x10½	Y	WG T9	4	Ti SBT151H	BF	R	4.44-7.4	Tim 31000H	L6IHV	529	930	a	XF	108½	7x3½x¼	C
29	.....251T 2R 5		3020	165	204	25000	8100	32x6D	8.25/20	Her WXC	6-4x4½	339	4.7	234	94-2800	7-2⅝x13¼	Y	Fu MLU	4	Ti SBT251H	BF	R	4.55-7.8	Tim 33000H	L6IHV	636	1094	a	DF	118½	9x3½x¼	C
30	.....281T 2R 6		3440	165	204	28000	8300	8.25/20D	9.00/20	Her WXC3	6-4¼x4½	383	4.7	265	106-2800	7-2⅝x13¼	Y	Fu MGU	4	Ti SBT251H	BF	R	4.55-7.8	Tim 33000H	L6IHV	636	1094	a	DF	118½	9x3½x¼	C
31	.....301D 4R 7		4110	165	204	30000	8400	9.00/20D	9.75/20	Her WXC3	6-4¼x4½	383	4.7	265	106-2800	7-2⅝x13¼	Y	Fu 5A530	5	Ti SWD251H	WF	R	5.0-9.25	Tim 33000H	L6IHV	336	1094	a	DF	149	10x3¾x⅜	C
32	.....331D 4R 8		4995	165	234	33000	10660	9.00/20D	9.75/20	Her RXC	6-4⅜x5¼	529	4.4	350	114-2200	7-3x12½	Y	Fu 5A530	5	Ti SWD251H	WF	R	5.0-9.25	Tim 26450H	L6IHV	664	1194	a	DF	149	10x3¾x⅜	C
33	Fageol.226BK 2F 5-6		2633	183	196	23600	7000	7.50/20D	8.25/20	Wau 6BK	6-3¾x4¼	282	5.1	190	82-2800	7-2⅝x10¼	N	WG T9	4	Tim SBT151	BF	R	4.44-7.4	Tim 31000H	L41HV	557	929	G	TX	104	8x3x¼	T
34	.....326HP 2F 6-8		4175	201	215	31400	8950	9.00/20D	9.75/20	Wau 6-110	6-4x4¾	358	5.2	254	110-2800	7-2⅞x12½	Y	BL 5241	4	Tim SBT251	BF	R	5.56-7.8	Tim 35020H	L41HV	643	1093	G	FD	118½	10⅜x3x¼	T
35	.....846HP 4R 8		7375	211	222	42000	13300	9.75/20D	10.50/20	Wau 6-125	6-4⅜x5⅛	462	5.2	324	125-2500	7-3x13⅜	Y	BL 7341	4	Tim Own	WF	R	6.0-9.25	Tim 26050N	Ws4r1A	760	1083	H	FD	124½	15x4x⅜	T
36	.....846AL 4R 8		8375	211	222	42000	11150	9.75/20D	10.50/20	Wau 6-125	6-4⅜x5⅛	462	5.2	324	125-2600	7-3x13⅜	Y	BL 7341	4	Tim Own	WF	R	6.0-9.25	Tim 26050N	Ws4r1A	760	1083	H	FD	124½	15x4x⅜	T
37	(D) 846ALD 4R 8		10400	222	233	42000	12250	9.75/20D	10.50/20	Cum 6HB	6-4⅞x6	672	17.	500	150-1800	7-4½x16½	Y	BL 7341	4	Tim Own	WF	R	6.0-9.5	Tim 27050N	Ws4r1A	760	1083	H	FD	127¼	15x4x⅜	T
38	....1046RB 4R 10		8458	222	233	58000	14500	9.75/20D	10.50/20	Wau 6RB	6-5x5¾	677	4.4	440	125-1800	4-3½x11⅜	N	BL 7341	4	Tim Own	WF	R	6.0-9.5	Tim 27050N	Ws4r1A	760	1083	H	FD	127¼	15x4x⅜	T
39	....1046AL 4R 10		9458	222	233	58000	12400	9.75/20D	10.50/20	Wau 6RB	6-5x5⅜	677	4.4	440	125-1800	4-3½x11⅜	Y	BL 7341	4	Tim Own	WF	R	6.0-9.5	Tim 27050N	Ws4r1A	760	1083	H	FD	127¼	15x4x⅜	T
40	(D)1046ALD 4R 10		10800	222	233	58000	13500	9.75/20D	10.50/20	Cum 6HB	6-4⅞x6	672	17.	500	150-1800	7-4½x16½	Y	BL 7341	4	Tim Own	WF	R	6.0-9.5	Tim 27050N	Ws4r1A	760	1083	H	FD	127¼	15x4x⅜	T
♦ 41	F. W. D....MJ6X6 10		10800	184	204	40000	17200	10.50/20D	12.75/20	Wau SRK	6-4⅝x5½	517	4.5	330	110-2300	7-3x13⅞	Y	BL 7440	8	Wis SDD352W	2F	R	7.33-9.56	Wis 1337	W6IA	1085	1680	G	TX	120	10x3x¼	PC
♦ 42	.....M6X6 15		13585	204	228	52400	18200	13.50/20S	12.75.24	Wau RB	6-5x5⅜	677	5.3	465	145-2000	4-3½x11⅜	Y	BL 7440	8	Wis SDD520W	2F	R	9.68-11.1	Wis 1910	W6IA	1085	1680	G	TX	145	10x3x¼	PC
43	Hen- A-126-T 2R		1990	120	210	22100	6200	6.00/20D	34x7	Wau 6BK	6-3¾x4¼	282	5.1	185	85-3200	7-2⅝x10¼	Y	Fu 5A33	5	Cla R950	BF	H	5.57-6.83	Cla F280	L6IH	423	591	C	TX	Opt	8x3xA	C
44	dri'k'nA-165-T 2R		2960	140	210	27500	6800	7.50/20D	9.00/20	Wau 6BK	6-3¾x4¼	282	5.1	185	85-3200	7-2⅝x10¼	Y	Fu 5A33	5	Cla R1100	BF	H	5.66-6.87	Cla F320	L6IHV	575	800	C	TX	Opt	8x3xA	C
45	....A-210-T 2R		3975	140	210	36500	8000	8.25/20D	10.50/20	Wau 6-110	6-4x4¾	358	4.6	254	110-2800	7-2⅝x12½	Y	Fu 5A330	5	Cla B805	BF	H	5.75-7.16	Cla F320	L6IHV	780	1070	G	TX	Opt	8x3xA	P
46	....A-275-F 4R		3475	157	240	27500	8100	8.25/20D	9.00/20	Wau 6BK	6-3¾x4¼	282	5.1	185	85-3200	7-2⅝x10¼	Y	Fu 5A330	5	Eat 1186	BF	H	** -7.4	Cla F320	L6IHV	575	800	G	TX	Opt	8x3xA	P
47	....A-375-F 4R		4900	160	240	37500	10500	9.00/20D	9.75/20	Wau 6-110	6-4x4¾	358	4.6	254	110-2800	7-2⅝x12½	Y	Fu 5A330	5	Eat 2.30X	BF	H	** -7.16	Tim 26450H	L6IHV	809	1175	G	TD	Opt	8x3xA	P
48	....A-420-F 4R		6600	160	240	42000	11200	9.75/20D	9.75/20	Wau 6-125	6-4⅜x5⅛	462	4.6	324	125-2600	7-3x13⅜	Y	Fu 5A620	5	Eat 2530X	BF	H	** -7.16	Tim 27450H	WM6IA	809	1175	G	TD	Opt	8x3xA	P
49	(D)AD-420F 4R		8950	160	240	48000	14500	9.75/20D	9.75/20	Cum 6HB	6-4⅞x6	672	17.	500	150-1800	7-4½x16½	Y	BL 7351	5	Eat 34050	BF	R	** -7.16	Tim27450TW	WM6IA	809	1175	G	TD	Opt	8x3xA	P
♦ 50	Hug.....99..4R 10-12		(23)	175	175	65000	15100	11.25/20D	11.25/20	Wau 6GAL	6-5x5½	648	4.6	468	130-1900	7-4x18⅝	Y	Spl 7341	4	Wis SD420	2F	T	7.33-10.2	Shu 1673	W6IA	102	1581	a	TD	92	9x4⅜x⅜	I
♦♦ 51	...(D) D99..4R 10-12		(23)	175	175	65000	15100	11.25/20D	11.25/20	Cum HB6	6-4⅞x6	672	17	500	150-1800	7-4½x16	Y	Spl 7341	4	Wis SD420	2F	T	7.33-10.2	Shu 1673	W6IA	102	1581	a	TD	92	9x4⅜x⅜	I
♦♦♦ 52	.....99S..4R 12-14		(23)	175	175	75000	18100	12.75/20D	12.75/20	Wau 6GAL	6-5x5½	648	4.6	468	130-1900	7-4x18⅝	Y	Spl 7341	4	Wis SD520	2F	T	7.77-10.2	Shu 1673	W6IA	102	1581	a	TD	92	9x4⅜x⅜	I
♦♦♦ 53	..(D) D99S..4R 12-14		(23)	175	175	75000	18100	12.75/20D	12.75/20	Cum HB6	6-4⅞x6	672	17	500	150-1800	7-4½x16	Y	Spl 7341	4	Wis SD520	2F	T	7.77-10.2	Shu 1673	W6IA	102	1581	a	TD	92	9x4⅜x⅜	I
54	Indiana..16X6 6 3-4		(20)	160	Op	.....	8000	7.00/20D	7.50/20	Her YXC	6-4⅜x4¾	428	4.5	283	94-2200	7-3x14	Y	BL 5341	4	Wis SFD151	2F	A	5.90-7.66	Wis F200	L4IHV	406	914	G	TD	72	8⅛x3xA	T
55	.....18X6 6 4½-6		(20)	172	Op	.....	10500	8.25/20D	8.25/20	Her RXC	6-4⅝x5½	529	5.4	350	111-2000	7-3x14	Y	BL 5341	4	Wis SD251H	2F	A	7.66-8.44	Wis 210	L4IHV	576	1299	G	TD	84	8¼x3x⅜	T
56	.....20X6 6 5½-8		(20)	200	Op	.....	15000	9.75/20D	9.75/20	Her HXB	6-5x6	707	5.4	455	148-2000	7-3½x17	Y	BL 7341	4	Wis SFD151	2F	A	7.42-9.11	Wis F310	Ws41A	588	1517	G	TD	99	10x3xA	T
57	.....22X6 6 7½-10		(20)	200	Op	.....	16000	9.75/24D	9.75/24	Her HXB	6-5x6	707	5.4	455	148-2000	7-3½x17	Y	BL 7341	4	Wis SFD420W	2F	A	7.33-9.11	Wis F310	Ws41A	588	1517	G	TD	100	10x3xA	T
58	International C35T2F 1½-4		1575	168	186	19030	5410	6.50/20D	7.50/20	Own FAB223	6-3⅛x4	223	5.4	160	78-3400	4-2⅜x5½	N	Own H4A	4	Own	SF	HT	5.62-7.40	OwnH108HT	B6IH	462	648	c	TX	84⅜	7Ax3½	TL
59	.....C835T 2F 1½-4		1670	168	186	19000	5440	6.50/20D	7.50/20	Own FAB223	6-3⅛x4	223	5.4	160	78-3400	4-2⅜x5½	N	Own H4A	4	Own	SF	HT	5.14-8.10	OwnH108HT	B6IH	462	648	c	TX	84⅜	7Ax3½	TL
60	....D-216-T 2F 2-4		1760	176	194	21000	6370	7.00/20D	34x7	OwnF.b-241	6-3⅜x4½	241	5.8	175	84-3200	4-2⅝x5½	N	Own W-42	4	OwnRT-1400	SF	H	7 40-1	Own F-400	B6IHV	557	780	C	TX	102	8Ax⅜x3½	T
61	....DS216-T 2F 2-4		1875	176	194	21000	6470	7.00/20D	34x7	OwnFab-241	6-3⅜x4½	241	5.8	175	84-3200	4-2⅝x5½	N	Own W42	4	Own RT2400	SF	HT	5.83-8.11	Own F400	B6IHV	557	780	C	TX	102	8Ax⅜x3½	T
62	..... C40T 2F 2-5		2200	168	204	24000	6490	7.50/20D	34x7	Own FAB223	6-3⅛x4	223	5.4	160	78-3400	4-2⅜x5½	N	Own F5	5	Own	SF	HT	5.62-7.40	Own 251½H	B6IHV	590	816	c	PX	84⅜	8Ax3½x¼	TL
63	.....C40F 4R 2-5		2975	168	204	24500	7200	7.50/20D	34x7	Own FAB223	6-3⅛x4	223	5.4	160	78-3400	4-2⅜x5½	N	Own F5	5	Own 1540	SF	HT	5.16-12.28	Own 251½H	B6IHV	590	816	c	TX	84⅜	8Ax3½x¼	TL
64	....D-246-F 4R 2½-5		3300	161	215	24000	8310	7.50/20D	36x8	Ow FBB298	6-3¾x4½	298	5.7	218	94-2800	7-2¼x11¼	Y	Own F51	5	Own RF1401	SF	H	8.19-13.1	Own F500	B6IHV	590	816	C	PX	84	7x3½x3A	C
65	....D-246-T 2F 2½-5		2850	161	215	24000	8185	7.50/20D	36x8	Ow FBB298	6-3¾x4½	298	5.7	218	94-2800	7-2¼x11¼	Y	Own F51	5	Own RT1500	SF	H	7.16-1.	Own F500	B6IHV	599	855	C	PX	84	9¼x⅜x3A	C
66	.....C850T 2F 3-6		3450	170	206	28000	7980	8.25/20D	9.00/20	Ow FBB279	6-3⅝x4½	279	4.6	191	83-2900	7-2¼x11¼	Y	Own H5	5	Own 950HT	SF	H	5.62-8.74	Own 350H	B6IHV	625	892	c	TX	84⅜	8Ax4x½	TL
67	.....C55F 4R 3½-7		4950	170	224	36700	10170	9.00/20D	9.75/20	Ow FBB298	6-3¾x4½	298	5.7	214	90-2800	7-2¼x11¼	Y	Own H5	5	Own 1555	SF	HT	5.69-11.89	Own 350HT	B6IHV	775	1106	c	TX	85½	8½x4xA	TL
68	.....C55T 2F 3½-7		3950	170	224	36000	9315	9.00/20D	9.75/20	Ow FBB298	6-3¾x4½	298	5.7	214	90-2800	7-2¼x11¼	Y	Own H5	5	Own 350HT	SF	HT	6.43-7.16	Own 350HT	B6IHV	775	1106	c	TX	85½	8½x4xA	TL
69	.....C60T 2F 3½-7		4075	170	224	36000	9395	9.00/20D	9.75/20	Ow FBB298	6-3¾x4½	298	5.7	214	90-2800	7-2¼x11¼	Y	Own H5	5	Own	2F	HT	7 1 -9.43	Own 350HT	B6IHV	775	1106	c	TX	84½	8½x4xA	TL

| | | |

Diesels Deliver

(CONTINUED FROM PAGE 21)

cc's. Even then it will show greater cylinder wear than a truck so geared that its engine will turn over at higher speeds.

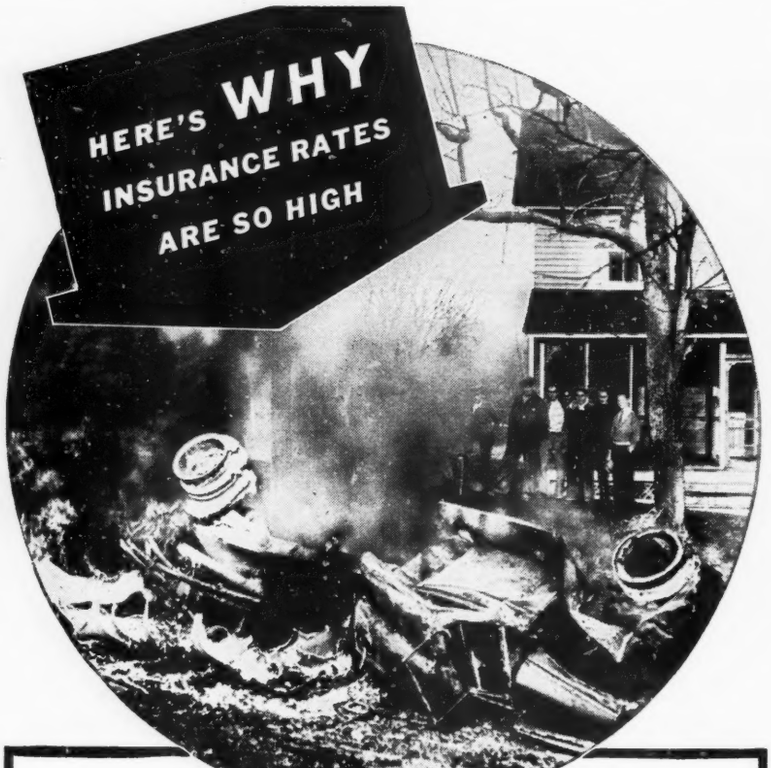
Timing and adjustment must be exactly right for proper performance. Even a slight error in setting will result in a lifeless and ragged engine. The injector timing is very important. So is the cup wiper clearance. Both should be checked at each 45,000 mile service and set to factory specifications. Valve and injector settings must be accurate. The water temperature should always be at least 180 deg. when the valves are adjusted. Injectors must be kept clean and leaking seats or check valves repaired. The importance of regular cleaning and inspection of all fuel lines and fuel strainers cannot be over-emphasized. Air leaks in the fuel system are responsible for more road failures than any other cause. Elimination of back pressure in the exhaust line is another big factor in improving performance and reducing maintenance.

We use a manifold of our own design and a 4 in. exhaust pipe. Our mufflers are so designed that they have larger capacity than the pipe. We use a short intake manifold of our own design in each of the three blocks. This gives each cylinder an equal amount of air and prevents starving one cylinder. The air cleaners however give considerable trouble because the pulsation loosens the filter and permits it to be pulled into the engine.

OUR operations extend from San Francisco, Portland and Seattle east to Minneapolis and cold weather is a real problem in that territory. In Nevada, Idaho, eastern Oregon, eastern Washington, Montana and North Dakota and Minnesota we give daily service at temperatures as low as 60 deg. and 70 deg. below zero. Thirty to 40 deg. below zero is commonplace in the areas we serve. At such temperatures 27 plus Diesel oil will not pass through the filter at all. Straight 27 plus will not even flow through ⅜ in. copper tubing. The moisture content will gather in the slightest dip in the fuel lines form ice and stop the flow of fuel entirely. Lying on your back under a truck thawing fuel lines with a rag dipped in fuel oil burning on one end of a piece of welding rod is a most unpleasant task. The most you can possibly say for it is that it is better than freezing to death.

To combat this condition extreme care must be taken in designing and maintaining the fuel tanks, lines and filters. The tanks are so designed that the exhaust passes through a tube built lengthwise in the lower part of the tank. The tanks on the equipment operating in the coldest territory are heavily insulated to retain the heat. Fuel lines are taken from the top of the tank rather than from the bottom. The line is never brought below ½ in. from the bottom of the tank. Each tank has two large sumps for collecting any moisture in the fuel. All fuel lines are of ½ in. tubing and are insulated and in some cases heated by flexible exhaust lines. No dip however slight is permitted

(TURN TO PAGE 66, PLEASE)



● Fire losses in motor transport are so frequent and expensive that insurance companies are not anxious to assume the risk. Naturally, the rates are high.

Most truck and trailer fires are the result of overturn. Few of the burned wrecks you see are right side up.

The Durakool Tipover Switch cuts off the ignition—chief cause of overturn fires—the instant the vehicle goes over. Approved by the Underwriters' Laboratories, recommended by leading insurance companies, easily installed. Equip your fleet at once—before you have a fire which will cost you hundreds of times as much money.

●

Durakool Tipover Switches are sold through automotive jobbers. If your regular dealer cannot supply you, please write to the factory for full particulars.

●

TIPOVER SWITCH

DIVISION

DURAKOOL, INC.

1092 North Main Street, Elkhart, Indiana

How much does it Really cost you to—

It costs LESS with Raybestos

When hundreds of carefully checked road tests on a certain type of truck have enabled us to develop a brake lining that gives maximum safety, easy pedal, and uniform performance under all weather and road conditions . . . that is only the starting point in determining the *best* lining for that truck.

Other factors must be checked. How often must the truck be laid up for brake adjustments and relining? Or, is the *lining* standing up at the expense of scored or warped *drums* that will soon need costly regrinding or replacement?

Before a Raybestos recommendation is made for your fleet, *all* this information is a matter of record, and Raybestos engineers can tell you the correct brake lining materials in the exact combinations needed to give *both* maximum service and lowest total braking cost.

The Raybestos Heavy Duty Line is complete—woven and molded linings in **PG** (Proving Ground Tested) *sets, rigid sheets, rolls, and blocks, to specifically suit every truck, bus and tractor.*

RAYBESTOS DIVISION, *Raybestos-Manhattan, Inc.* **Bridgeport, Conn.**

Raybestos HEAVY DUTY BRAKE LINING

(CONTINUED FROM PAGE 64)
in the fuel line. The full length from fuel tank to filters drains back into the tank. Filters are mounted on the left rear side of the motor above and to the rear of the fuel pump. The fuel is diluted 10 per cent with kerosene and all fuel storage tanks are pumped out weekly to remove any moisture which may have collected.

SLEEVES are replaced when the taper exceeds .010. Pistons are given .005 clearance when new or rebored sleeves are installed. As the oversize increases the motor becomes rougher. Motors .040 over are so rough that we have never attempted to go over that. Pistons are discarded after 150,000 miles regardless of condition due to danger of breakage from fatigue. At that mileage pistons show no appreciable wear. We have tried aluminum alloy pistons but found that oil consumption increased and the pistons could not be trusted over 45,000 miles. Rings are replaced whenever the pistons are removed for any reason. They are given .001 side clearance, .018 end clearance on the top ring and .014 end clearance on the others.

The crankshaft is replaced when .007 or more flat. Building up worn shafts by the metal spraying process is successful in most cases and we do it regularly. However, there is no denying the fact that in a small percentage of cases the metal comes loose with disastrous results. The camshaft is replaced when worn .004 or more. We are experimenting with camshaft which has been built up with metal spray but have no experience with them as yet. There is a tremendous field for a reliable method of reclaiming work parts of this type.

Conrod bearings present the most serious problem in the Cummins motor. Ring sticking has really ceased to be a cause for concern. The motor could be run considerably farther between checks if the bearings could be trusted. The trouble lies in the failure of the bond between the cadmium silver and the back of the bearing and is not confined to either the top or bottom of the bearing. We have, of course, experienced the usual bearing troubles from lugging and overspeeding but they have been corrected by proper driver instructions and supervision. We set the conrod bearings at .0035, the 3¼-in. main bearings at .004, and the 4½-in. main bearings at .006. The bearing failures do not appear to be the result of faulty lubrication. The trouble seems to be in the bearing itself. No. 1 main bearing on the 4½-in. shaft also requires replacement at almost every check.

Conrods should always be checked for cracks by the use of whiting and by tapping with a hammer while suspended by a string. The wristpin eye is frequently stretched .008 to .009, particularly if the motor has run away. We have found it sound practice to pull a motor down immediately if it has run away and check it thoroughly for cracked conrods or pistons. We permit a maximum wristpin clearance of .004. New ones are given .0015.

For checking a motor with low oil pressure or high oil consumption we use a pressure tank filled with SAE

(TURN TO PAGE 68, PLEASE)

"And I'll tell you why. Because they're so comfortable.

"I know that they have a lot of other good points. They're no higher priced than any others. Another thing—you know what a nuisance a broken spring is—well, these cushions don't have springs. And they don't sag, either. Do they stand up under the punishment they get? Well, the cushion I ride on was put in when we bought the truck, five years ago, so I know what I'm talking about when I say these Spongex Cushions last. My cushion is as good as new.

"But these are reasons why my boss likes these cushions. With him it's a matter of getting his money's worth. He's been putting them in every truck he's bought for the last eight years, so I know he's satisfied all right.

"But with me it's a matter of comfort. Anything that makes the long day behind the wheel less tiresome has my vote. And when you sink into that soft sponge rubber, you'll *know* you're comfortable.

"How about giving the fellows in your fleet a break? You'll save money by putting in Spongex Cushions."

★ ★ ★

Let us tell you about the design, the construction, and the guarantee of Spongex Cushions. Write today for our booklet.

THE SPONGE RUBBER PRODUCTS CO.

157 Housatonic Avenue, Derby, Connecticut

BUS CUSHIONS • TRUCK CUSHIONS • CUSHION FILLERS
DOOR SEALS • CORD • WEATHERSTRIP • TUBING

YOU CAN DEPEND ON CHAMPIONS
CHAMPION
PATENTED
THE WICHITA TRANSPORTATION CORPORATION
142 NORTH BROADWAY AVENUE
PHONE 3-4214
WICHITA, KANSAS
November 17, 1937
The Champion Spark Plug Company
Toledo, Ohio
Gentlemen:
Our 72 buses operate 231,000 miles per month. The picture I am sending shows 31 of them.
During my seven years as Executive Vice-President and General Manager of the Wichita Transportation Corporation, our continued use of Champion Spark Plugs has given us a high degree of satisfaction.
Their reliability and economy have contributed in no small part to help us win the 1937 Bus Transportation Maintenance Award.
AJC:R
Sincerely,
Vice President and General Manager

FOR GREATER ECONOMY!

IF YOU WERE to examine the records of successful bus and fleet operators throughout the country, you would be sure to find that the majority depend upon Champion Spark Plugs. Most fleet owners, like the Wichita Transportation Company, one of the three exclusive Champion users to win Bus Transportation Maintenance Awards in 1937, know that they cannot operate successfully and economically with any spark plug less dependable than Champion.

Champion's enviable record for increasing gas mileage and lowering maintenance costs while stepping up engine efficiency and dependability is unequaled. 27 years of constant research and engineering have kept Champions everlastingly ahead in performance and dependability. Champions have helped many fleet operators to increased economy and increased profits and they can help you. Insist on Champion Spark Plugs because you can depend on them.

THE SPARK PLUG CHAMPIONS USE

CHECK AND CLEAN SPARK PLUGS WHEN YOU CHANGE OIL

When writing to advertisers please mention Commercial Car Journal

(CONTINUED FROM PAGE 66)

20 oil. With the pan removed this tank is connected to the main pressure line and inflated to 125 lbs. Any excessive leaks will be located easily by this method.

Timing gears must have sufficient clearance to avoid cracking the block when hot. We lap them with grinding compound, using an air drill on the crankshaft. The fan drive pulley requires frequent close checking as it is very hard to keep tight.

BY the use of service units two men can overhaul a Cummins motor in 5½ hours—without, of course, replacing the crankshaft, camshaft or timing gears. The motor is very accessible and if properly driven and properly serviced, can be operated at a maintenance cost no greater than for a gasoline motor of the same size.

The 24-volt electrical system used with the Cummins has long been a source of trouble and expense. We have overcome this by the use of a 12-volt system. We now have 59 12-volt systems in service. The generator fields are rewound to make it 12-volt and only two brushes are used. The starter fields are rewound to give what amounts to two 12-volt starters in one housing. The voltage regulator is replaced. The batteries are charged in parallel. Circuit breakers are used rather than fuses. With this system the batteries are kept fully charged. Even if the batteries are run down while starting the motor they will come up to normal in less than a hundred miles with all the lights on. The lights are much more satisfactory with the 12-volt system and we have not broken a single starter spring to my knowledge on a 12-volt starter on a Cummins Diesel motor. The voltage regulator setting must be checked every 5000 miles and kept at exactly 14.5 volts.

We use adjustable curtains on the radiators of all road equipment. Shutters have proven very unsatisfactory. The curtain with an ordinary window shade roller has proven more effective and simpler to maintain and operate. It is controlled from the cab by a chain, and the driver uses the curtain to keep the water temperature between 160 deg. and 180 deg. at all times. Whenever a radiator is removed for repairs we have it boiled out and rods run through each tube. Radiators are thoroughly flushed out twice a year. The problem of overheating is not serious because Diesel motors run very cool when performing properly. It is usually difficult, particularly in cold weather, to keep the motor warm enough. Radiator cleaners are not very effective for our work because the only real trouble we have is caused by pieces of rubber from the inside of the hoses. They lodge in the tubes, plugging them. Of course, all radiator cleaners are made harmless to rubber so do not correct our difficulty.

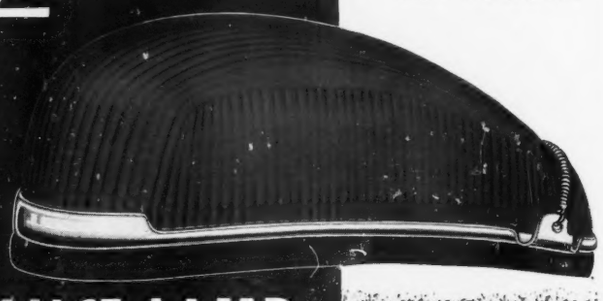
Radiator and outlet connections are so designed that the hose extends across from left to right instead of using a short hose parallel to the frame. Before making this change the hose would pull off and let out all the water whenever the frame was twisted by a deep chuckhole or some similar cause.

We do not use any anti-freeze in

(TURN TO PAGE 70, PLEASE)

DO-RAY Zephyr

Streamlined for 1938...



CLEARANCE LAMP

More Light • More Protection
Less Current
Less Time to Change Bulbs

TYPICAL TRUCK INSTALLATION

IDEAL FENDER LAMP
For Passenger Cars and Trucks

FITS ALL TRAILERS
Another Certified Do-Ray Product

A new streamlined design. A new method of assembly that simplifies installing and changing bulbs. This water-proof, dust-proof Do-Ray Zephyr has many uses. It's a superior clearance lamp. It makes an ideal modern type fender lamp. And three of them installed on front or rear of truck 6" apart make up an outstanding 3-in-line-light.

Construction of the Zephyr is characteristic of Do-Ray workmanship. Rubber pads and gaskets are used to cushion shocks and keep out dust and water Available with red, amber, green, or white lenses. Furnished in chrome (No. 400) at $1.00 list and in black enamel (No. 401) at 90c complete. Ask your jobber or write

DO-RAY LAMP CO.
1458 S. Michigan Ave., Chicago, Ill.

GMC FLEET SALES *Set New Records!*

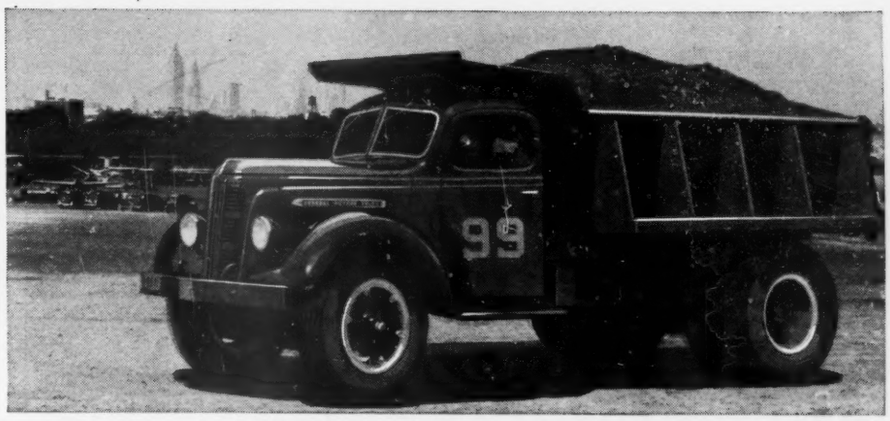
The world's finest and most extensive city sanitation service is in New York—made possible by a new fleet of 615 cab-over-engine GMCs installed within the past year.

108 TO TEXACO!

Most modern *looking* and *most advanced in equipment* are the 108 new GMCs sold to renowned Texaco within the past year!

100 GMCs FOR NORTH BEACH AIRPORT!

Second only to building New York's 1939 World's Fair as a mammoth project is the building of North Beach Airport adjacent to it—a huge grading job for 100 new 8-yard GMC dump trucks!



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GENERAL MOTORS TRUCKS & TRAILERS

GENERAL MOTORS TRUCK & COACH • DIVISION OF YELLOW TRUCK & COACH MANUFACTURING COMPANY • PONTIAC, MICHIGAN

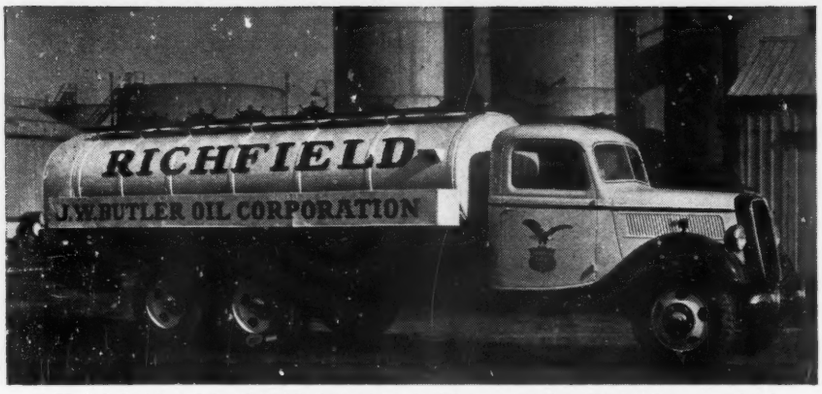
When writing to advertisers please mention Commercial Car Journal

(CONTINUED FROM PAGE 68)

our road equipment. We have found the cost to be prohibitive. In cold weather the engine is rarely shut off at all. When it is, it must be drained immediately and the motor run a few minutes to dry out the water pump. In order to keep the truck warm enough in extremely cold weather the bottom of the motor is completely covered back to the bell housing. Over half of the area of the radiator core is covered with sheet metal also.

When a truck has been standing for some time in sub-zero weather all the units must be warmed before starting as the grease will channel and bearing failures will result if this is not done. It is common practice in case of road failures to build fires under the motor, transmission and differentials with diesel-soaked rags before starting out again. It is hard on paint but eliminates the danger of another road failure within a few miles.

Warford



Warford Dual Axle Drive Multi-Wheeler used for the delivery of gasoline. The tank has a capacity of 1750 gallons and the job loaded weighs approximately 24,000 pounds.

SPEED AND STRENGTH
WITH
SAFETY AND ECONOMY

SPEED TO START — With 8-Wheel Traction. WARFORD MULTI-WHEELERS deliver high average speed because of trouble-free mileage. WARFORDS get rolling and keep rolling!

STRENGTH — Enough to handle heavy loads in all kinds of going. Extra strength comes from extra gear ratios plus WARFORD'S heavy duty construction.

SAFETY — A combination of ten-wheel brakes and the ability to brake on the motor with the underdrive gear ratio in the WARFORD transmission makes the WARFORD truck a real SAFETY-FIRST highway unit for the hauling of liquid loads.

SAVING — Fuel costs are lower. Tire and brake wear are less. Operating costs are cut down and driving time is shortened. MORE TONS—MORE MILES—LESS COST.

IN FACT

WARFORD TEN-WHEELERS give you more for your money in every way. Ask your Ford Dealer or nearest Warford Distributor to show you how much you can save on operating costs and driving time with WARFORD TEN-WHEELERS.

THE WARFORD CORPORATION
44 WHITEHALL STREET, NEW YORK, N. Y.

The Rover Boys

(CONTINUED FROM PAGE 23)

small town is not familiar with the plan, has no interest in it and is not prepared to carry it out. This statement may be challenged, but I am prepared to offer the proof for it.

JACK NORTH, Commonwealth and Southern Corp., suggested that, so far as he was concerned, manufacturers could confine their cooperation to supplying shop manuals and dissemination of advance knowledge of troubles encountered with their vehicles, because despite the fact that his 2700 vehicles were scattered he did all of the inspection work within company garages.

Fred Faulkner, Armour & Co., said he felt called upon to defend the traveling mechanic because the 22 he employed actually produced 40 hours per week of productive labor and that 75 per cent of it was replacing parts and labor that had been done outside company garages. He found the cost comparable with that of outside inspections in an operation where some of the travelers were actually supervisors and in some sparsely settled districts traveling mechanics.

In line with Mr. Mathews' findings, H. R. Grigsby, Oklahoma Gas & Electric Co., found distances too great and weather and scheduling too uncertain to use traveling mechanics.

Capt. Axelson said that under certain conditions his costs per inspection were as high as $5.40 each but that they were worthwhile. He said that he had three groups of vehicles which operated without traveling mechanics and five groups with them and the costs of operation on the groups with travelers showed the economy of this practice. He said that it took specially trained men who were prepared not to repair vehicles but to keep them rolling.

Leo Huff, Pure Oil Co., stated that his company withdrew from a territory where it had a base shop and later went back to it, using outside service. He found that with outside service he got 50 per cent less vehicle life and 33 1/3 per cent increase in operating cost and had to fall back on traveling mechanics.

Austin Wolf believed that in sparse

(TURN TO PAGE 72, PLEASE)

GOOD-LOOKING TRUCKS ARE GOOD ADVERTISEMENTS

MY—WHAT A SHABBY TRUCK! I WOULDN'T BUY ANY OF HIS BREAD. I DON'T SEE HOW IT COULD BE CLEAN!
MILLER BAKING CO.
SAY, CHIEF—NO WONDER MY SALES ARE SLIPPING. I JUST HEARD A WOMAN TELLING ONE OF MY BEST CUSTOMERS THAT BREAD DELIVERED IN SUCH A SHABBY TRUCK SIMPLY COULDN'T BE CLEAN.
!!
YES, SIR, DULUX WILL KEEP YOUR TRUCKS LOOKING BRIGHT AND NEW. AND YOU SAVE MONEY BECAUSE DULUX LASTS LONGER. YOU SPEND LESS ON PAINTINGS.
YES, I'M BUYING FROM HIM. IF THEY KEEP THEIR TRUCK AS SPICK AND SPAN AS THIS— I'M SURE THEIR BAKERY MUST BE CLEAN TOO.
MILLER BAKING CO.

IT'S unnecessary to have unattractive trucks when DULUX can make them look new again for so little money. Why not let a DULUX finished truck give your business the kind of advertising you want? Why not cut your paint maintenance costs by using DULUX? It looks better and lasts longer. DULUX can be applied with brush or spray in either your own shop or at an Authorized DUCO-DULUX Refinisher. E. I. du Pont de Nemours & Co., Inc., Finishes Division, Refinish Sales, Wilmington, Delaware.

DU PONT REG. U.S. PAT. OFF. *Automotive* **DULUX** REG. U.S. PAT. OFF.

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(CONTINUED FROM PAGE 70)

communities fleet operators would have to look to unit replacement and instrumentation to eliminate the errors of small town service.

THE paper of S. B. Shaw, Pacific Gas & Electric Co., San Francisco, made clear the advantages of having a fleet concentrated even though the vehicles may be mixed. With vehicles well maintained it is possible to de-rate vehicles as they grow older and put them on less severe work. It is also possible to rigidly maintain inspections which can be applied to all vehicles. As a result of the concentration of vehicles it is possible to experiment. Said Mr. Shaw:

"Chromium plating of clutch pressure plates and flywheel faces is being tried. A motor coach operator reports excellent results with a chromium-plated insert disc in flywheel face.

"Chromium plating of cylinder bores is also being experimented with, and we expect to try chromium-plated cylinder liners. Preliminary reports indicate almost complete elimination of wear and corrosion effect.

"Another use for chromium plating that is being tried is the plating of brake drums, particularly the driveshaft type used on certain heavy-duty trucks. So far, it seems to be effective in preventing scoring, the principle cause of trouble with brakes.

"Ignition coils are being removed from engines to cooler locations. Many of the standard coils furnished with equipment are incapable of satisfactory operation when subjected to under-hood temperatures; these are replaced with better coils.

"Condensers are being replaced with better grades that are not so susceptible to high temperatures.

"Another field that has been attracting some attention is that of internal cleansers for engines. Such, if successful, would make possible the removal of ring groove deposits as well as crankcase sludges without the necessity for disassembling engines.

"In certain cases, trucks of older models which are otherwise satisfactory are equipped with engines that are of insufficient capacity or are very expensive to recondition. It has been found practical to install modern engines of the mass production types which have higher outputs and superior economy. Later when these trucks are disposed of, the engines are salvaged for re-use.

"We have been adding from 1 to 1½ per cent of light oil (transformer oil) to our gasoline. It appears to be effective in keeping rings in proper functioning order.

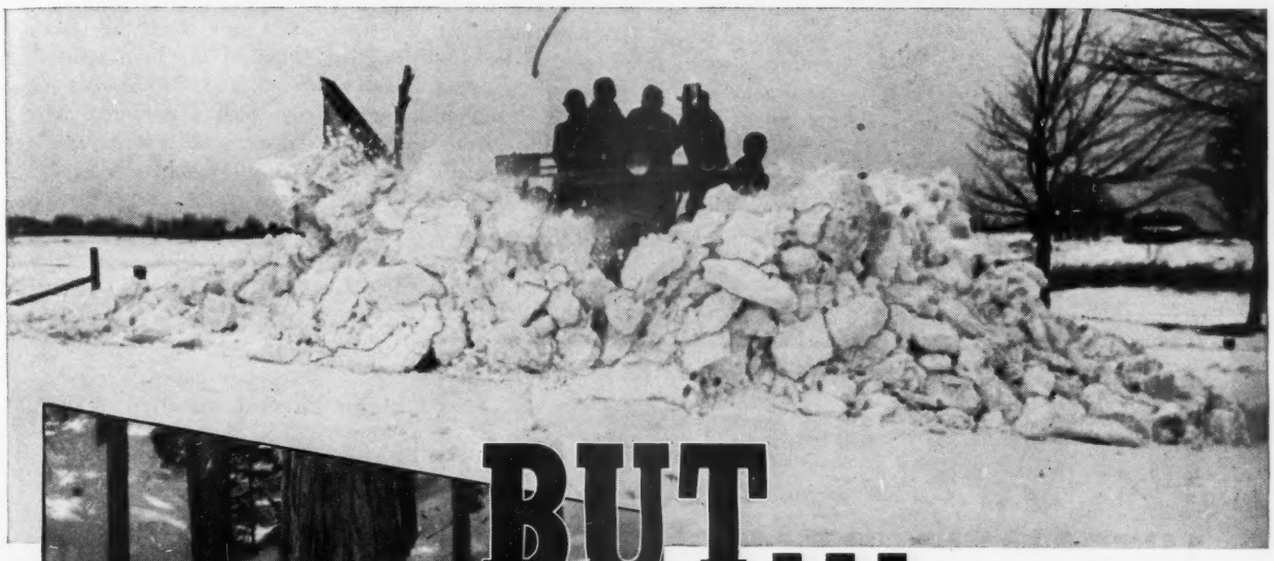
"We do not adhere strictly to the practice of replacing worn or failed parts with duplicates. If later developments in design or materials appear to be superior or parts of better quality are available, consideration is given to their use. This is commonly the case with such parts as pistons, rings, bearings, brake lining, clutch plates, condensers, coils, generator armatures and valves. If there is something available that is better than the original part, we usually want to use it."

MR. LAURIE, in his paper on heavy-duty vehicles stated:

(TURN TO PAGE 74, PLEASE)

COMPRESSORS—Built
to Handle Any Job in Any Shop
Ingersoll-Rand Type 30 Compressors are specially designed for garages and service stations. They are trouble-free, dependable, economical. They are constructed for continuous operation at 200 lbs. service rating. The troublesome check valve is eliminated in Type 30 units. They perform better and last longer. From ¼ Model A to 10 hp. Type 30, there is a size to fit every need. You pick the job. Ingersoll-Rand Compressors will do it.
For further details ask the I-R jobbers near you or write to our nearest branch office.
553-3
Ingersoll-Rand
11 BROADWAY, NEW YORK CITY
Atlanta Birmingham Boston Buffalo Butte Chicago Cleveland
Dallas Denver Detroit Duluth
El Paso Hartford Houston Kansas City
Knoxville Los Angeles Newark New York
Philadelphia Picher Pittsburgh Pottsville
Salt Lake City San Francisco Scranton Seattle St. Louis Tulsa Washington

SNOW DRIFTS AHEAD



BUT....

a Clean Road Behind with a WALTER SNOW FIGHTER

Snow drifts to right of them; snow drifts to left of them; snow drifts in front of them; but nary a snow drift *behind* them. WALTER SNOW FIGHTERS are always spoiling Old Man Winter's fun, undoing the blizzard's mischief, taking the snarl out of winter traffic.

And what makes a WALTER SNOW FIGHTER such a blizzard-eater? *Four-Point Positive Drive*—that's what. Something no other vehicle has. For Walter automatic differential action between front and rear wheels and between right and left wheels maintains positive driving action on all four when it is needed most—on slippery ice and snow covered highways.

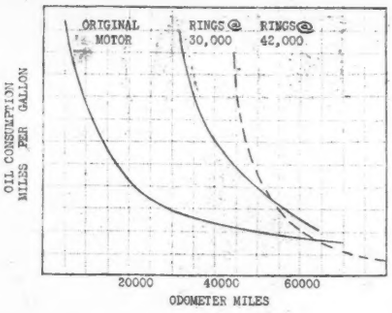
The Walter's three power-proportioning differentials divide the power so that the wheels with least traction get the least and those with most traction get the most power. That's what we mean by Walter 100% Traction.

And remember—when you're shoving snow drifts around, one horsepower *with* traction is worth a hundred *without.*

Send For Further Information.

WALTER MOTOR TRUCK CO.

1001-19 Irving Ave., Ridgewood, Queens, L.I., N.Y.



Exemplifying the value of an accurate record system, Mr. Laurie presented this chart of oil consumption and ring installations

(CONTINUED FROM PAGE 72)

"To definitely determine with any degree of accuracy which of the major contributing factors are responsible for the high or low maintenance costs of a concentrated fleet of large trucks, it is necessary to have available detailed records of the cause of each item of expense, together with a detailed record of the corrective measures employed. It is apparent that all items which do not reveal a maximum return be eliminated.

"The major factors referred to in their apparent natural sequence are: Records, planning, engineering, operation, maintenance, replacement.

"If we are to extract the maximum return from each item, the question of the 'why' of the item must first be answered and the answer must come from past experiences or experimentation. If records are not available of past experiences, it becomes necessary to repeat experiments.

"From the records are obtained such items as:

1. Variable expense per mile of the old unit.
2. Miles per year.
3. Physical condition of the old unit.
4. Miscellaneous factors such as state regulations, etc.
5. Variable expense per mile of the new unit (estimated).
6. Savings, if any, in fixed charges due to increased speed, mobility and other physical factors.
7. Savings in expense per mile.
8. Overhaul estimate.
9. Trade-in value of the old car.
10. Net purchase price.
11. Net return on net investment."

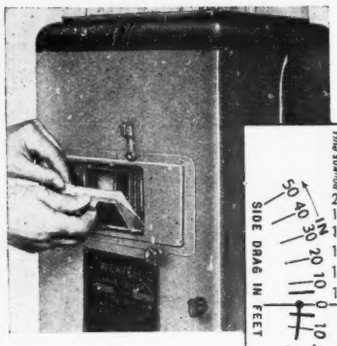
In discussing Mr. Laurie's comments upon the value of records O. M. Brede, Service Manager, General Motors Truck Co., stated that manufacturers were working on the job of cutting red tape and reducing paper work for mechanical men so that records could be more easily kept by men who do not like to write. He also said that manufacturers are realizing the value of immediate cooperation on mechanical troubles and of simpler shop manuals.

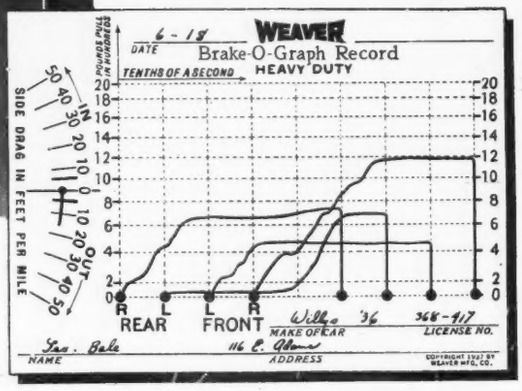
IT PAYS TO CHECK BRAKES REGULARLY WITH A

WEAVER

AUTOMATIC BRAKE TESTER

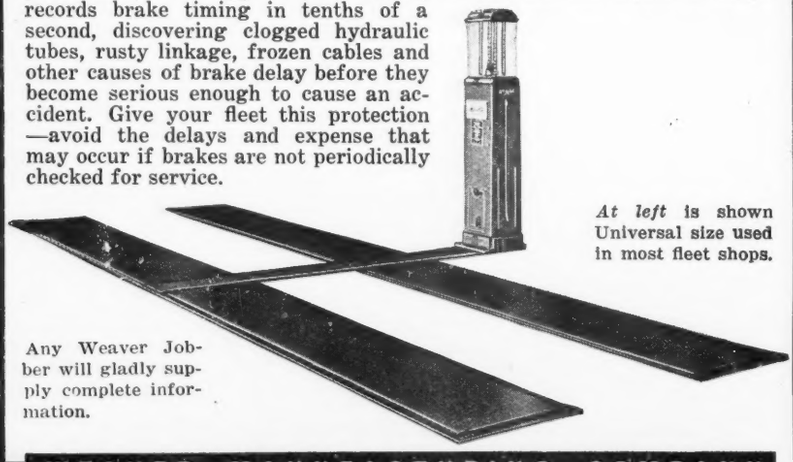
New Brake-O-Graph makes a permanent card record of test.





Above—placing a test card in the Brake-O-Graph. *Right*—sample recording.

The Weaver Brake Tester is the only one that accurately shows conditions that exist during an actual stop of the car. The four tubes in the pedestal show energy of each brake; in addition the Brake-O-Graph records brake timing in tenths of a second, discovering clogged hydraulic tubes, rusty linkage, frozen cables and other causes of brake delay before they become serious enough to cause an accident. Give your fleet this protection —avoid the delays and expense that may occur if brakes are not periodically checked for service.



At left is shown Universal size used in most fleet shops.

Any Weaver Jobber will gladly supply complete information.

WEAVER MANUFACTURING COMPANY

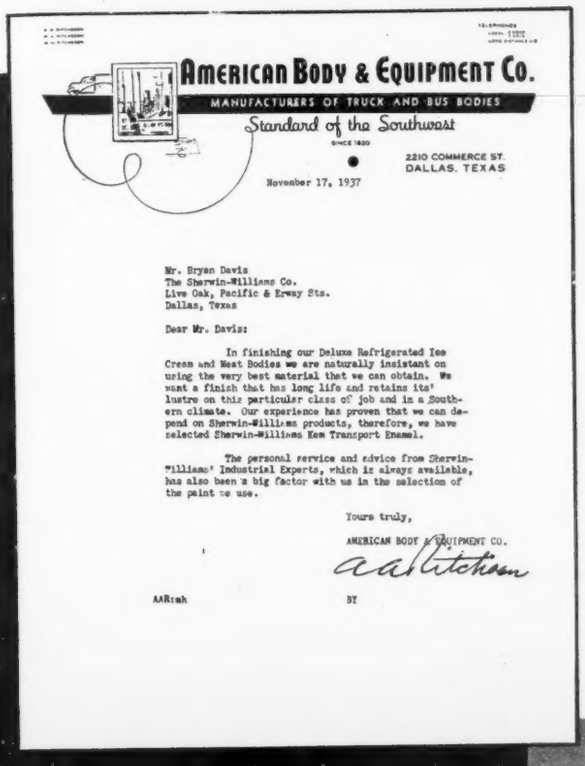
Chatham, Ontario, Canada SPRINGFIELD, ILL., U. S. A. London, England

Grey-Rock Contest

A contest offering $5,000.00 in cash and prizes is announced by United States Asbestos division of Raybestos-Manhattan, Inc. For the best answer, in 50 words or less, to "Why Grey-Rock is the Fastest Growing Line," the company will award a first prize of $1,000.00. Other prizes varying from $500 to $5 and special "acknowledgment prizes" to every entry.

The contest is open to proprietors, foremen and mechanics in garages, repair shops, service stations, brake shops, and car dealer establishments as well as foremen and mechanics in fleet operators' shops in the United States and Canada.

Entry blanks are being distributed by Grey-Rock jobbers. The contest closes at midnight, June 15, 1938.



AMERICAN BODY & EQUIPMENT CO.
MANUFACTURERS OF TRUCK AND BUS BODIES
Standard of the Southwest
SINCE 1920
2210 COMMERCE ST.
DALLAS, TEXAS

November 17, 1937

Mr. Bryan Davis
The Sherwin-Williams Co.
Live Oak, Pacific & Erway Sts.
Dallas, Texas

Dear Mr. Davis:

In finishing our Deluxe Refrigerated Ice Cream and Meat Bodies we are naturally insistant on using the very best material that we can obtain. We want a finish that has long life and retains its' lustre on this particular class of job and in a Southern climate. Our experience has proven that we can depend on Sherwin-Williams products, therefore, we have selected Sherwin-Williams Kem Transport Enamel.

The personal service and advice from Sherwin-Williams' Industrial Experts, which is always available, has also been a big factor with us in the selection of the paint we use.

Yours truly,

AMERICAN BODY & EQUIPMENT CO.

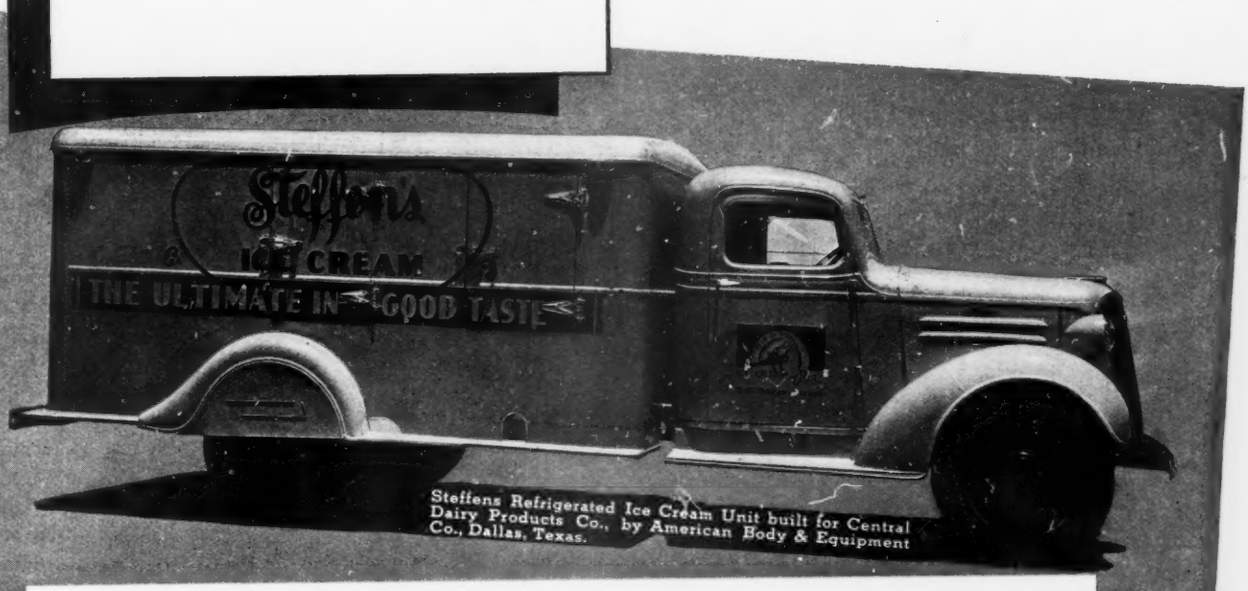
a a Litchson

AARimh BY

SWS
COVER THE EARTH

Beauty

THAT HAS REAL ADVERTISING VALUE!



Steffens Refrigerated Ice Cream Unit built for Central Dairy Products Co., by American Body & Equipment Co., Dallas, Texas.

What kind of impressions does your fleet make as it travels Main Street or Metropolis? Your trucks should do more than deliver goods. They should be effective traveling billboards that help sell goods. Fleet operators the nation over are capitalizing on the exceptional beauty of Sherwin-Williams KEM TRANSPORT ENAMEL to promote sales. This remarkable finish is practical in application, extremely durable, and easily maintained lustrous and brilliant in appearance. Why not let the Sherwin-Williams "OK" Automotive Representative show you how KEM TRANSPORT ENAMELS combine economical maintenance with increased advertising value? Write The Sherwin-Williams Co., Cleveland, Ohio, and all principal cities.

SHERWIN-WILLIAMS
"OK" AUTOMOTIVE FINISHES

When writing to advertisers please mention Commercial Car Journal

Tire Whats and Whys

(CONTINUED FROM PAGE 29)

in the streets are the prevailing forms of abuse or neglect that damage the tires. The driver can do a lot to favor the tires and the truck dispatcher too, if he will refrain from overloading.

Fast treadwear is, of course principally the result of frequent brake and power applications from starting and stopping. Overload and underinflation also accentuate treadwear.

City Operation—Commercial Deliveries

In this group I include what might be put in the class of commercial deliveries service, such as department stores, bakeries, newspapers, groceries, plumbers, laundries, small coal trucks, milk, grain and feed, hardware, express, and various forms of construction and repair service. A large percentage of these operations are in city deliveries and practically all of them are on city pavements which should normally allow the tires to wear out naturally.

Any shortcomings from this service could be largely attributed to the start-stop nature of the operation, but there is obviously a fair amount of neglect of inflation pressure which is also responsible for shortening the tire's life. The smallest of these vehicles have generally a passenger car chassis and should be equipped with four- or six-ply passenger car tires or start-stop tires. The larger vehicles of this group (¾-ton, 1-ton, 1½-ton trucks) should be equipped with either stop-start tires, commercial delivery tires, or the regular truck-bus tires of the smaller sizes.

The tire problem throughout this group is neglect of inflation which leads to early treadwear and rim bruises. Backing into curbs, clipping curbs at street corners, bumping over holes in pavements, these combined with pressures low enough to let the rim strike through and the result: all cords crushed and broken. Overloading will also be found common with the operations of this group that deliver the heavier classes of goods and merchandise.

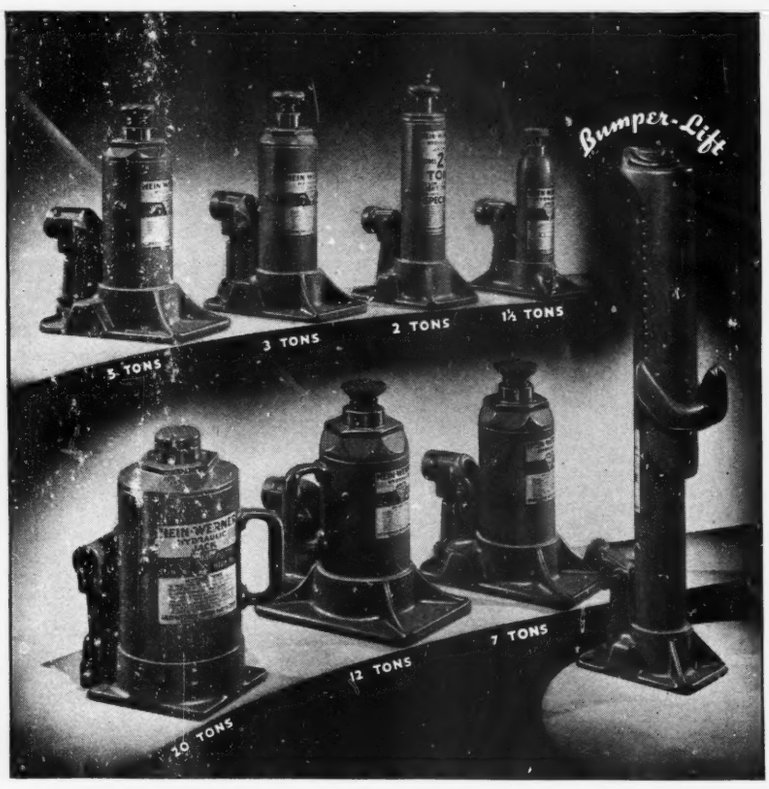
Intercity Operation—Heavy Freight

In this group I have put intercity motor freight, intercity buses, automobile transport units, oil tankers, etc.

The features which characterize this group are heavy hauling for long distances over good highways. Most operators aspire to high sustained speeds, which overheats the tires. Overloading is also more or less prevalent, the result being that body ply failures (both impact and flex break) are the most annoying type of premature tire trouble. For intercity freight, where speeds are only about two-thirds that of the bus lines, the regular truck-bus tire in either balloon or high pressure, has been found satisfactory. But, where the motor truck speeds are the same as those of the intercity buses, the special heat-resisting bus tires are preferable.

Some operations between cities include considerable stretches of gravel roads, a class of operation which is particularly hard on tires. In addition to the crown and flex breaks mentioned above, we must add im-

(TURN TO PAGE 78, PLEASE)



COMPACT and POWERFUL

Hein-Werner Hydraulic Jacks have many superior features . . . All models in this complete line are *compact, powerful* and SAFE —in addition to being *built right* and *priced right.*

Before leaving the factory these jacks are tested at 1½ times their rated capacity. None can lower accidentally because the handle must be removed from the pump to open the release valve.

This complete line includes the right jack for any and every car, truck or bus. The "Bullet" 1½ ton capacity jack is only $2.80 . . . Light Truck Special, 2 ton model, $3.70 . . . 3 ton model, $6.95 . . . 5 ton, $8.95 . . . 7 ton, $11.75 . . . 12 ton, $17.50 . . . 20 ton, $30.00 . . . And for modern passenger cars, Light Model BUMPER-LIFT, only $4.10 . . . Heavy Model, $5.45 . . . All prices are net to dealer, and slightly higher on West Coast.

Hein-Werner also makes a complete line of FLOOR JACKS—2, 3 and 4 ton capacity.

Ask your jobber salesman or write us for details.

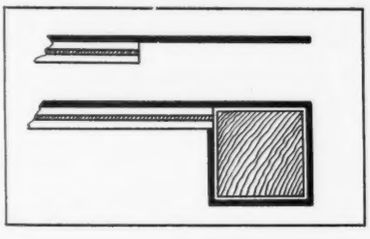
HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

FEW MODELS ENGINEERED TO DO THE WORK OF MANY
HEIN-WERNER hydraulic JACKS

Dearborn Parcel Delivery Unit by Transportation Engineers, Inc., Detroit, featuring "Genuine Plymetl."

Builders Feature "Genuine Plymetl"

Because IT STANDS for 20 YEARS of BETTER BODIES



TYPICAL OF MANY STRUCTURAL IMPROVEMENTS WITH "PLYMETL"

Rear corner posts in the Dearborn body above are incorporated into the side panels so as to give an exceptionally strong and permanent joint which also provides a smooth, neat exterior appearance for rear door and hinge assembly. The diagram shows how plywood is undercut from the panel ends leaving projecting metal only, which is lapped around the four sides of an extruded metal post. When firmly riveted in place the result is a smooth, continuous single piece from outside to inside.

Specifications (above job): Haskelite "Plymetl" panels (metal one side) for sides, and roof; "Plymetl" (both sides metal) for front and rear doors. Floor, Phemaloid panel, 1-piece; no joints allowing entry of road dust.

● The extra values in Plymetl as built into commercial bodies have won recognition as a "feature" to look for in buying. The builders of the Dearborn Line (see above) play up the body building material in their advertising as "*genuine* Plymetl," because a dozen extra advantages in body construction are associated with it. They want truck buyers to know that those features are included in the many values of the whole unit.

Plymetl panels, in any one of the ways they are fabricated for body builders, always stand for maximum light-weight, maximum unobstructed interior capacity, high class body appearance, fine smooth sides for advertising display and *more years of* "good as new" condition.

Look for these advantages in any commercial body you buy. You will find them quickest by asking for Plymetl construction.

"PLYMETL"

HASKELITE MANUFACTURING CORPORATION

208 West Washington Street • Chicago, Illinois — Offices in Chicago • Detroit • New York

When writing to advertisers please mention Commercial Car Journal

(CONTINUED FROM PAGE 76)

pact breaks and severe tendencies to tread cracking, due to cuts which grow into large cracks on gravel roads.

City and Intercity Passenger Cars

This group I reserved for the passenger cars used by salesmen in covering their territory. The most appropriate tire equipment is to duplicate first line passenger car tires provided as original equipment. In most cases they are operated over good pavements or at least hard-surfaced roads. There is probably an occasional case where the mud and snow type tire would be recommended.

Neglect of inflation, clipping curbs, hard fast driving and violent application of brakes (the human element factor), are the abuses to watch in this group. The result: rim bruises and fast treadwear.

Extra Heavy Trucking

The classes of fleet operations included in this group are coal strip mining, quarrying, lumbering and logging, ore mining, oil field operations, and city contracting. The predominating characteristics of these operations are heavy hauling, short or medium distances, large capacity units of trucks, and truck-tractors with semi-trailers generally over poor roadways for at least a part of their operation. Such work calls for tires that can stand the abuse sustained in rolling over roads, holes, uneven places in the roadway, and the injuries due to generally unfavorable operating conditions.

Traction is seldom an acute problem in this type of service. Overloading is also quite common in operations of this group and in combination with rocks, holes or stumps in the roadway will produce impact breaks in the cord body of the tires. As the overloaded tire rolls over these rocks, holes or uneven spots in the roadway, the object indents the tire too far, the tension on the cords is carried beyond their strength and there is a burst through all plies. Lower air pressure, by putting less tension on the cords, reduces or eliminates impact breaks, but, lowering the pressure may be resorted to only after a thorough check by a qualified tire man to determine whether the loads carried will permit such a move without inviting flex breaks.

The tires seldom wear out through normal use. They are often cut and chewed to pieces before they are worn down to the base of the non skid. The cuts gradually getting worse penetrate into the tire body, allowing water, sand and gravel to enter the openings, causing body ply injuries which put the tire out of commission.

The type of tire most generally suitable for this class of operation is the "rock resisting" type. There are certain exceptions however. In some operations, notably in oil fields and lumbering where maximum of traction is needed, the mud and snow type should be used.

Quite often we find operations that are unfavorable even to the "rock resisting" tires, that is, where loads are excessive, the roadways particularly bad, or the vehicle restricted in a manner to prohibit oversizing. For these cases we suggest "extra ply" tires of the same "rock resisting" type. A study of the operation

(TURN TO PAGE 80, PLEASE)

THE ANSWER TO BETTER BRAKES - Gatke !

A DEPENDABLE BRAKE LINING

EACH Gatke Custom-Bilt Set always contains the proper Brake Blocks to assure a safe, smooth, positive stop—on all Roads and Loads.

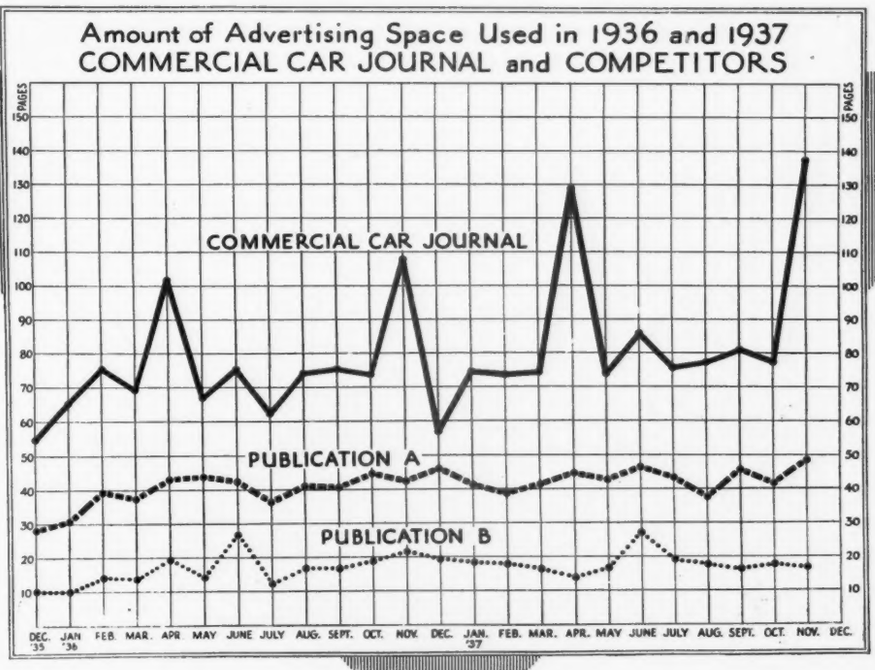
Specify Gatke Custom-Bilt Sets on your next replacement job and convince yourself.

Ask your Gatke Jobber or write for full information.

GATKE CORPORATION
228 N. La Salle Street Chicago, Illinois

COMMERCIAL CAR JOURNAL

Leads in the TRUCK FLEET Field!


Amount of Advertising Space Used in 1936 and 1937
COMMERCIAL CAR JOURNAL and COMPETITORS
PAGES
COMMERCIAL CAR JOURNAL
PUBLICATION A
PUBLICATION B
DEC. '35
JAN. '36
FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
JAN. '37
FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

——and How It Leads!

The chart above shows how COMMERCIAL CAR JOURNAL leads in advertising pages run. No other publication approaches it. This chart shows 1936 and 1937. It was much the same in 1935.

There Are Reasons for This

1. The largest and best TRUCK FLEET Circulation in the world.
2. The finest editorial material appearing in any publication in its field.

COMMERCIAL CAR JOURNAL has 30,000 distribution monthly. It reaches 25,000 Truck Fleets with 8 or more trucks. 5,000 copies go to the Truck Trade —paid circulation at $3 per year. No other publication equals this.

You advertise with and to the Leaders when you advertise in—

COMMERCIAL CAR JOURNAL

A CHILTON Publication

Chestnut and 56th Street ◐ **Philadelphia, Pa.**

When writing to advertisers please mention Commercial Car Journal

(CONTINUED FROM PAGE 78)
has to be made to determine the most suitable air pressure to make this move successful.

Earth Hauling Operations

In this group I have classified the earth moving vehicles which include scrapers and tractor-trailer wagons. These operations are always on new construction jobs, involving the moving of earth and rock and consequently operating over very unfavorable ground surfaces. One important problem is to provide flotation. This requires low air pressure ranging from 25 lb. to 40 lb. In this service the free-wheeling tires should be of the "earth mover" type and on these units employing a wheel tractor the driving wheels should be equipped with the "rock resisting" tires in rocky operations and the mud and snow type in conditions requiring maximum of traction.

While the speeds are low, the loads are heavy. Since most of these vehicles have no springs, failures by impact breaks of the body plies from rolling over rocks, stumps, pot holes and uneven roadways, are by far the most common form of tire trouble. Cutting and snagging of the tread and sidewalls are also common in rocky operations.

In operations of this character there are two features that must receive more consideration: first, in order not to overload the tires the weight per cubic yard of the material being hauled must be ascertained and the yardage moved in each load governed accordingly. Second, if the operation is over rocky ground the yardage carried must be reduced by one-third to one-half of what would be technically allowable with dirt, sand, or gravel and the air pressure reduced by the same amount. Even with these precautions it will pay the contractor to put on extra men and equipment to keep the runways free from rocks.

Another thing we learned—large singles are preferable to duals in rocky operations. It is the case of momentary double load for one of the two tires of a dual combination as it rolls over the rocks.

We found some cases of tractor-trailer wagon operation in which it was possible to get up considerable speed over uneven and rocky runways. Of course, this combination just popped the tires open.

Road Grader Operations

In this group I place road graders. These vehicles are used particularly on gravel roads and in road construction work, generally under the authority of public highway departments. The loads are heavy, the road surfaces often unfavorable and the operation calls for maximum traction. Also most road graders have no differential action between the driving wheels—whether there be two or four driving wheels.

Up until a year and a half ago, high pressure (80 lb. to 100 lb.) tires were considered necessary for road graders because lower pressures resulted in bouncing of the grader with uneven "washboard" grading as a result. We are now able to use low pressure (25 lb. to 30 lb.) tires with more aggressive traction tread designs. The result is that road graders now have tractive ability to do road construction work and more

(TURN TO PAGE 82, PLEASE)

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(CONTINUED FROM PAGE 80)

effective snow plowing as well as road maintenance. Just another automotive advancement contributed by low pressure tractive tires.

Tire troubles on road graders manifest themselves mostly as the result of excessive traction scrubbing the tread off. The rougher the operation the more this type of wear takes the aspect of small, medium or large cuts, or snags. Front tires on road graders must be especially designed of very heavy ribs to provide effective steering. Some graders have leaning wheels to prevent slipping sideways as well.

It often happens that the grader blade is set in such a position that a discharge from the blade leaves a stream of rocks right in front of the rear tires so that service on these tires is particularly severe and the liability of trouble from impact breaks excessive.

Fleet owners should realize that to get economical and trouble free tire service their efforts should start with the selection of the proper size and type of tires as original equipment on all new units. Let the buyer be frank with the truck salesman, describe to him precisely the service in which the equipment is to operate —the loads to be carried, the roads to be traveled, the speeds, the nature of the material to be hauled, etc. The vehicle salesman will, if he wants to have a satisfied customer, discuss the optional tire equipment listed for the job in question and urge the buyer to specify a tire and rim size adequate to do the job. It is poor economy to skimp on a tire and rim size when purchasing new vehicles. Sooner or later the correct size will have to be installed.

Ability Factor Study

(CONTINUED FROM PAGE 28)

we did not attempt to record very lightly loaded ones.

Special Tests of Low Mileage Trucks

The attempt was made to select for special study a few new (1937) trucks which had been run far enough to be broken in but not far enough to show the effect of wear. The mileage range decided upon was between 5000 and 20,000 miles. We were anxious to develop a procedure whereby new trucks could be used to demonstrate the best possible performance for given makes and models. It was also thought that possibly the observed performance might be checked against formulae.

It must be admitted that the study of such special trucks was not very successful, and therefore none of the data which were secured are presented here. We adopted the following procedure. At the scale house all possible information was secured concerning items having an effect upon hill-climbing ability. In addition to the data secured for the ordinary run of trucks we ascertained the rolling radius of all drive-wheel tires and tried to ascertain the axle ratio. We developed a method for accurately measuring the former, but in a great majority of cases were unable to ascertain the latter, even though we crawled under the truck with flash-light and wire brush to see

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4. Be sure to give your own name, your company's name and the address of the place you work. Also give your Grey-Rock jobber's name and the name of his salesman who calls on you.

5. Contest closes midnight, June 15, 1938.

6. Duplicate prizes will be awarded in case of a tie. Judges' decision is final. All entries become Grey-Rock property.

Grey-Rock

if we could discover it on the axle or differential housing. Before the vehicle left the weighing station it was marked with a special tag and the driver was informed that just before he reached the test hill he would be stopped by a man with a red flag. After our observer had stopped the vehicle and explained to the driver that we wanted him to get over the test hill as fast as he could, he rode in the cab of the vehicle to see that his instructions were carried out. Meanwhile, the speed-recording crew on the hill was made aware of the approach of the vehicle by means of the special tag already mentioned. When the vehicle hit the number 1 road strip the observer in the cab started a stop watch and noted the transmission gear in which the truck was at the moment. Subsequent gear changes were timed and in this way we were later able to tie in the speeds recorded on the chronograph tape with the actual corresponding transmission gear ratios.

The actual engine speed corresponding to the recorded roadspeed was then computed by the formula:

$$\text{r.p.m.} = \frac{168 \times R \times S}{r}$$

The published engine torque corresponding to the known engine speed was then inserted in the equally well-known formula:

$$GVW = \frac{T \times 12 \times E \times R}{r\left(\frac{G}{100} + f\right)}$$

in which the coefficient of rolling resistance, f, was taken as 30 lb. per gross ton. The gross vehicle weight computed in this manner was compared with the known gross weight.

Grave discrepancies were apparent in all save a very few of the cases studied. In a few cases the axle ratio was found stamped on some part of the driving axle assembly. Even in these cases observed gross weights and those predicted by the formulae failed to agree. In cases where we could not find them marked on the vehicle we got the axle ratio from published specifications. In general none of the optional ratios seemed to provide a check. It was noted that in practically every case the gross load which actually pulled the vehicle down to its crawl speed was far below that given by the formula, being on the average about two-thirds of the formula value.

Since in the denominator of the formula, rolling radius and grade are measured quantities and the rolling resistance well established by tests, it may be suspected that excessive values were used in the numerator for torque or efficiency.

Investigation to be Extended

The extension of the work done last summer is being actively planned and arranged for. It will be carried forward on three general fronts. In the first place we are planning to secure a large amount of data on hill climbing practice through the agency of several of the State Highway Planning Surveys. Secondly, we have arranged with the Motor Transport Division of the Quartermaster Corps of the Army to use its dynamometer laboratory at Camp Holabird, Baltimore, for a study of special vehicles. Thirdly, we are giving attention to

(Turn To Page 88, Please)

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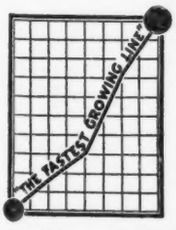

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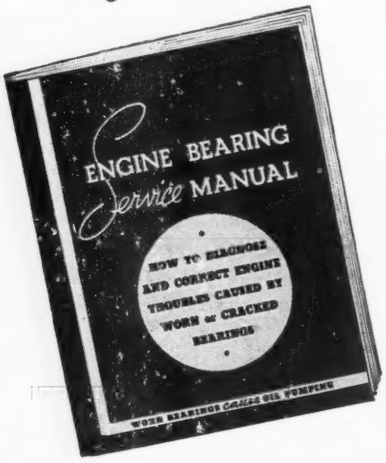

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Ability Factor Study

(CONTINUED FROM PAGE 83)

the availability or development of devices which may be used in the enforcement of performance regulations when they are promulgated.

It is proposed that mass data on current hill climbing practice be secured through the use of a technique and apparatus quite similar to that reported here and that it will be applied through the cooperation of several of the existing State Highway Planning Surveys. A wide range of grades is contemplated as well as a variety of pavement surfaces.

The purpose of the work planned for an early beginning at Camp Holabird may be briefly stated as follows:

1. To discover what may be expected as the best possible performance of new vehicles. We may thus establish the ideal or optimum ability of current models.

2. To find out how ability is affected as age and mileage increase. In this way we may get an idea how to discount proposed regulations to provide for wear.

3. To verify some of the performance formulae or, in the absence of verification, possibly to establish empirical coefficients which will pull them in line with observed facts.

These will involve assembling at Holabird a considerable number of both new and used trucks.

Everyone connected with the investigation is fully appreciative of the complexity and seriousness of the undertaking. For this reason it is not being entered upon lightly but with a determination to proceed carefully and as slowly as needs be so that the final outcome may represent a real contribution to the continued progress and development of highway transportation.

Discussion

In a prepared discussion read in his absence by Stephen Johnson, Bendix Westinghouse, Nathan L. Smith, Maryland State Highway Commission, stated that he believed that trucks were troublesome only at the points of vertical and horizontal curves and since these points represent relatively little mileage that study and widening of roads at these points would relieve the condition making ability factors necessary.

O. A. Axelson stated that despite the scientific approach given to the problem by Mr. Thompson, the driver was still a major factor and that it was impossible to account for or make uniform driving skill.

Merrill Horine, Mack Trucks, Inc., said he felt that the industry had nothing to fear from a performance factor recommended by a man or group who attacked the problem in such a scientific manner. Mr. Horine accounted for the difference between formula performance and test performance by the fact that the torque published is just ahead of stall point and no driver can operate a truck that close to the stall point, therefore, he is not getting full torque.

Professor Thompson summed up by saying that he was interested in determining a formula of x miles per hour on y grade. That is, he is interested in solving these unknowns in an equitable manner and not in promoting 4 per cent at 20 m.p.h. or any other figures in current use in opinions.

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Men Against Worms

(CONTINUED FROM PAGE 25)

ging operation in Gales Canyon. A little curl of smoke was seen to rise. A moderate forest fire started in this way, which "fooled around" until the great blow-up of Aug. 25. This was the reddest day in Oregon history. Fanned by a 30-mile wind from the east, with low humidity and the forest floor a mass of tinder, the efforts of the largest fire-fighting crews ever assembled in the state made not the slightest impression on the fire. In a few days here is what resulted.

Eleven billion board feet of Oregon's finest timber had been hit by the flames, which burned over approximately 262,000 acres—more than three-fourths of it in 40 hours. This represented enough lumber to build 600,000 five-room houses, sufficient to house 2,400,000 people. To cut this amount of timber would take 14,000 men six years, working 40 hours a week. It would keep a saw mill with a capacity of 250,000 board feet per day, working 300 days per year, 146 years to saw it up. A potential $375,000,000 went up in smoke. That pall of smoke rose to a height of seven miles, and for 50 miles along the Pacific Coast it was necessary to burn automobile headlights all day, and the chickens went to roost at noon.

SALVAGING the timber of this one burn has become a major economic problem of Oregon. It has been going on ever since the fire, and recently at an accelerated pace because of the good lumber market and because of the two new roads. At that, the time is rapidly drawing near when the worms will have beaten the saws.

Coming to the city of Tillamook, at the western end of the new Wilson River highway now working its way eastward into the mountains, one is impressed by the many log-laden trucks coming into the place. Some make their way to a rude wharf and dump their loads into a log pond. Others unload direct to the one saw mill in the city or to loading points for rail shipment to distant mills.

A truck comes up to the edge of the wharf. The load may consist of one, two or three logs. While a scaler is measuring up the number of board feet in the load, the binders or "Swedes" which hold the two binding cables are released. Next the chains which hold the chocks on the bolsters on the water side of the load are also released, from the opposite side for safety's sake. The chocks then turn down in the bolster frame so that the logs may slide off. A small crane rigged with a winch and cable then gives the load a roll over the side and down into the water.

By the time the mighty splash has subsided, an interesting operation has started. The truck moves forward until the trailer is under the crane. The truck end of the 6 by 9 in. wooden reach is then unfastened and the crane picks up the trailer bodily, so that the truck can back under it and take the trailer on its back, resting on the truck bolster. The trailer reach projects up and forward over the cab and rests in a fork fabricated of angle iron rigidly mounted in a vertical position immediately back of the cab. The whole unloadng operation has taken about five minutes.

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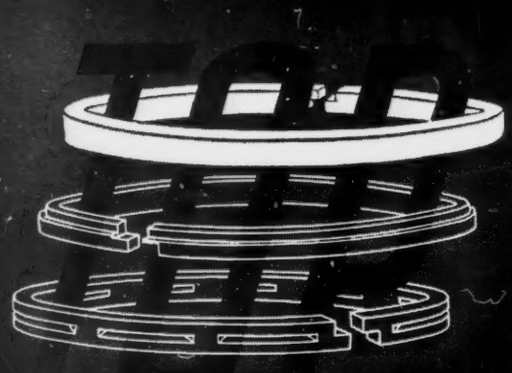

Lubrication

It has been stated that cylinder bore wear falls generally into three classifications: (1) abrasion; (2) erosion; (3) corrosion. The first of course is caused by road dust, metal chips, dirt, etc., and has been greatly aided by the oil bath air cleaner.

Erosion is caused by metal-to-metal contact. And it is here that "dag" colloidal graphite can play an important part. The graphoid surface formed on the friction parts withstands the temperatures and pressures existing in the combustion zone. It presents a tough, lubricating film which will resist erosion and at the same time help maintain the oil film. The graphoid surface, being almost a part of the metal, cannot drain off the friction parts. This fact assures its presence during cold starts - a time when most scuffing of piston rings and bores occurs.

Corrosion is caused by the oxidation or chemical reaction of the products of combustion on the piston rings, cylinder walls, and pistons. Here again, the graphoid surface plays an important part. Being chemically inert and covering as it does the friction areas, it serves as a retardant of these corrosive influences.

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(CONTINUED FROM PAGE 89)

All the trailers are equipped with power brakes, a few air brakes being used but the cheaper and at the same time effective vacuum system predominating. Since the trailer carries practically two-thirds of the load, and steep grades of 15 per cent and even more are encountered on the logging roads leading off from the main highway, a first-class braking system is called for. Not only are the grades steep but they are long, so a water cooling system for the brakes is necessary.

A water tank is mounted on the rear of the trailer from which the water is conducted to the brakes through small pipes, which are either automatically or manually controlled. There is a leaning toward the latter since, if it is necessary to stop on a hill, the water may be turned off, while in the case of the automatic system it keeps on running as long as the brakes are set and may be exhausted before need for it is past. In some cases the water is applied to the exterior of the housing and in others is carried through and applied direct to the brake lining. If applied inside, the cooling effect is greater, but the braking effect is reduced by direct application. If applied outside, the brakes have a greater effect but will run hotter. Take your choice.

The brake linings on trailers average about 4 in. wide by ½ in. thick. The retail price on the average is $54 for the complete set, and with a water cooling system it is possible to run them about 90 days. Without cooling, they would have to be renewed much oftener. The braking on the truck itself is by means of standard hydraulic equipment.

All the trucks and trailers noted at the wharf were rigged along about the same lines, found by long experience best adapted for general logging work. On the rear of the truck frame a box-like platform of welded or riveted tees is mounted, for carrying the truck bolster. The latter is built up of heavy steel angles and plates and is rigidly mounted on the platform crosswise of the truck, the ends extending out as far as the outside wheels. The general shape of this fabrication is side pieces about six or eight in. high with trough between. The chocks at each end are slidably mounted in the trough, each being operated independently of the other by a chain. Either may be drawn toward the middle or outward and down over the end of the trough. The chocks prevent the logs from rolling on the bolster. The chains are so arranged that either chock may be operated from the opposite side of the truck, so that the operator need not loosen a chock from the side of the load from which the logs are to be rolled off.

The bolster on the trailer is similarly constructed, except that it is mounted to turn on a king pin, allowing the truck and trailer with their long load to easily negotiate turns. The trailers are equipped with four sets of dual wheels. On the heavier rigs, the trailers use about a 9.75-20 balloon tire and on the lighter ones a 9.00-20 is common practice.

What the truck and trailer rigs are called upon to carry in the way of a load may be gathered from the fact that they are now limited by the state public utility commission to 54,000 lb. for truck and load. This means that a load of about 6000

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board ft. of logs can be carried, full scale. On the basis of 7 lb. to the board ft. in this thoroughly dried wood that means something over 40,000 lb., and most of the operators attempt to carry at least all that the law will allow.

BEFORE hopping a truck to ride up to the "two-donkey show" in the woods, suppose we first inquire into the classification of these truck operators who run the logs, not only on this burn but in logging operations generally. As a rule, neither the saw mill companies nor the logging companies own and operate their own trucks, although there are some exceptions among the very largest companies. For the most part, they hire the work done by truck operators who make their living, or their fortune, out of this class of work. They go by various names. If a man owns three or four trucks you may call him a trucking or hauling contractor and he will not be offended. As nearly as could be ascertained, two or more trucks constitute a fleet and the owner may be entitled to a fleet-owner discount among distributors of automotive supplies.

In many, if not the majority of cases, the man owns only one outfit, and drives it himself. The dignified title which should be bestowed upon him is "individual truck owner." Then there is the term gippo or gypo which some please to bestow on any or all of them. Or perhaps one of them, with the belief that he himself holds certain ethical standards, will hurl it at another whom he believes to be not too ethical in the matters of price cutting, etc.

Call them what you may—contractors, owners gippos—they are a hardy, resourceful and earnest lot of men, taking pride in a vocation that is not without its hazards from both the bodily and financial standpoints.

There is really no contract involved. The mills set the price of so much per thousand board feet, full scale, measured at the unloading point. Sometimes this is paid monthly and sometimes semi-monthly. The rate depends upon the length of haul and the nature and condition of the road. If not sufficient on any job, in the estimation of the truck operators, they can get together and bargain with the mill for a better rate. The rate once settled, they then turn too and haul logs as though the devil were after them.

On the particular location visited, the haul was 11 miles over the new highway grade and then three miles up into the woods over a fairly good road that the mill had built to its holdings. But in these three miles it was necessary to climb 2000 feet. Under this set of conditions, the rate was set at $2.15 per thousand board feet. A man bringing out 6000 feet to the load three or four times a day would, therefore, earn from $38 to $51 per day. This looks like pretty good dough, although there are many things to be considered.

"Sure, you can ride up, if you don't mind the bumps." Peter Jacobs speaking, driver for one of the contractors, and operating a big Studebaker all ready to go, with its trailer mounted on its back like a turtle carrying its shell. I got in and was agreeably surprised at the smoothness with which it rode over the rough graveled surface. Turning off

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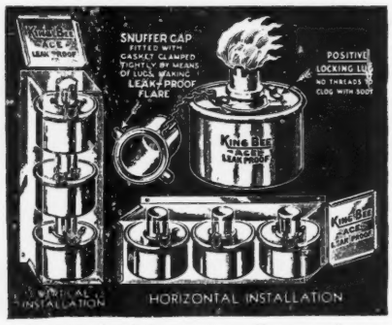

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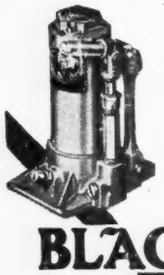

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(CONTINUED FROM PAGE 91)

the main highway onto the logging road, we were faced at once by the three-mile, 2000-foot climb. Other trucks were met coming out with their loads. Practically all makes were represented, all down the line of nationally advertised trucks. The owners have their individual preferences, but all the jobs were up to date, and good ones. There is no place for worn out rattle traps in the logging business. Before starting up the grade, Jacobs first stopped at a roadside water station and filled his supply tank for brake cooling on the return trip.

AT the top of the grade, and far up in the ghost forest, we came at last to the "two-donkey show" as it is called. Such a show consists of one great steam donkey for operating the skyline and another smaller donkey for operating the tong lines. The skyline swings the logs in through the air over a ravine for a distance of about 1800 feet. The loading donkey then takes the logs from the pile, selecting the necessary size of truck load, and picks them up by tongs similar to ice tongs. They are then laid nicely, like matches, on two cables laid crosswise of the roadway. By these cables, they can be picked up and held suspended while the truck and trailer move under.

Skyline and tong lines are operated by means of pulleys on the top of a spar tree that has been nicely trimmed and topped at a height of 150 to 200 ft. above the ground. Off in the woods nearly a quarter of a mile away, another donkey was at work "cold decking" logs to a point where the skyline could reach them. As nearly as I could make out, this two-donkey show was a "side." Sometimes the skyline donkey does its own cold decking. Sometimes it has a yarding donkey or two working for it, in which case I suppose, you might call it a contractor. But in any case, it is still called a "side." But if I have got this thing wrong, what is one side more or less among friends?

Thinking it a good idea to get a picture just as they were laying the logs on the Studebaker, I was off at one side looking into the finder of the camera trying to locate them when I heard some vague shouts and the scuttling of feet. Looking up, I saw that the forward ends of the logs

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were on the ground instead of on the truck. It seemed that the forward tong line had broken and dropped the end of the load onto the truck bolster, from which it had rolled off. Having no particular place in mind to which to scuttle, and not knowing much what it was all about anyway, I just stood and watched 60 or 100 ft. of heavy steel cable come pawing the air and squirming on the ground. When things had quieted down, I did get a picture of the "Stude" in its predicament. It had a broken back, in that the heavy load in trying to drive it into the ground had bent the rear axle housing so that the rear wheels dished out in a surprising way and the truck was ready to call it a day.

This raises a fine point in log trucking. The truck owners all carry insurance, but with $100 deductable. Whatever the cost of repairs, the insurance company will take care of it, down to the hundred dollars. The next step by the owner is then to try and collect this from the logging company, for manifestly the breaking of their equipment caused the damage. This can generally be done, but on top of that there is loss of time on the part of the truck, the towing it out, etc., all of which costs the contractor money, and represents just one of the financial hazards he must face.

IN the loading of the trucks, the procedure is, generally speaking, the reverse of the unloading. The tong lines lift the trailer off the truck onto the ground. The truck then backs in and the reach is coupled. Next, the tong lines lift the logs by means of the two cables and lay them in the "bunk," as it is called, that is, on the bolsters between the chocks, which are then drawn up tight. The outfit then pulls down the road a short distance where it is stopped and the tie lines thrown over and tightened up by means of the binders. Finally, the water is turned onto the brakes and the outfit is on its way down the grade.

I rode back down the road to Tillamook with Harry Elliott. He represents the typical independent truck owner. He was driving a White truck, 3-ton, 704-K equipped with a Page & Page trailer, manufactured in Portland. "The rear end is the part that gets the most abuse," said

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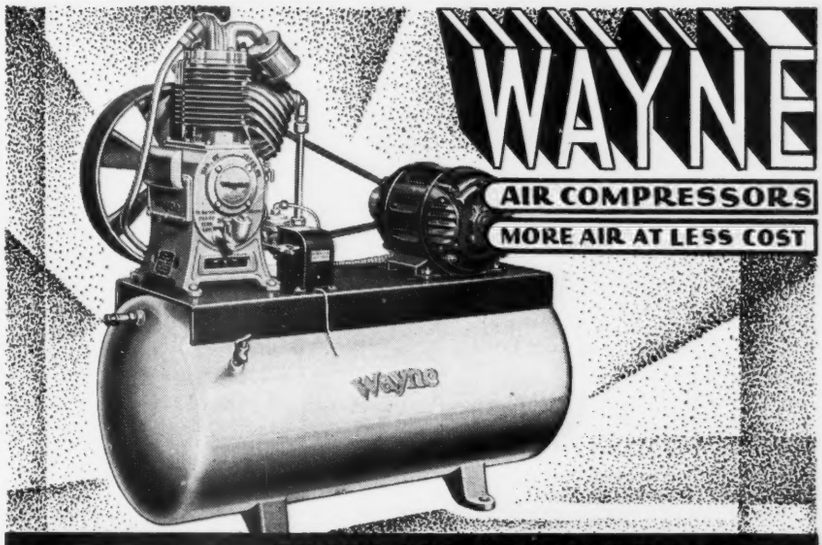

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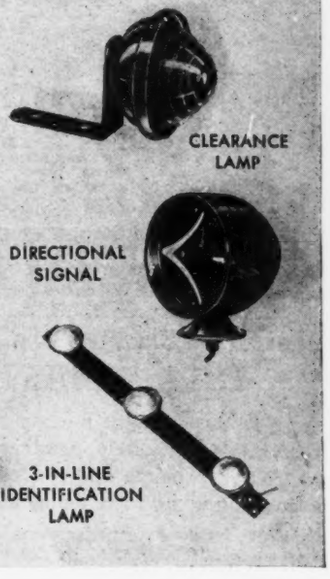

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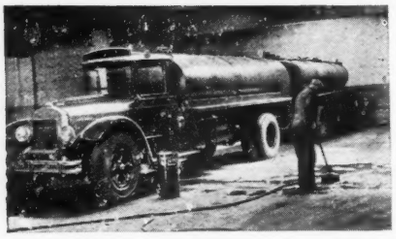

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(CONTINUED FROM PAGE 93)

Harry. "This work requires the heaviest kind of rear end and axle assembly that you can get. It is also hard on transmissions. I find that the 6031 auxiliary transmission is very popular among the owners. This gives you 15 forward speeds in addition to three reverse. I find that on this particular job I am getting about five miles to the gallon of gas, which isn't bad under the conditions."

Later on toward evening I dropped in on Lewis Welch, log hauling contractor at his home on the edge of town, where he had an acre of ground on which to store his trucks and trailers and turn around on. He was putting in a little spare time painting his house, so we just sprawled out on the grass and talked about trucks and trucking.

It developed that the log hauling contractors and individual operators, by the Oregon Transportation Act of 1933, are classified as special carriers. It is necessary for them to secure a license from the public utility commission, which permits them to haul logs, lumber and piling. The fee paid is monthly on the basis of 3½ cents per 100 lb. per month. With the load limit of 54,000 lbs., this amounts to $18.90 per month. The trucks are periodically checked by the state police. Moreover, a special carrier may not hold two kinds of licenses at the same time. That is, he cannot go into gravel hauling or construction work, for instance, without giving up his special carrier license and taking out another in the proper category.

Lined up in the back of Welch's yard stood his present equipment—two 1½ ton Fords and a Federal 3 to 5. The Federal was a factory rigged job with heavy duty double reduction rear end and two trans-

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missions. One has five speeds ahead and the other two, giving the benefit of two gear reductions on each front transmission.

In the case of the Fords, these had been re-rigged with 8.25-20 balloon tires for the special wheels. Warford transmissions had been put in, which have only under gear ratios and no overspeed. Mr. Welch said that quite a number of the operators he knew were in favor of the Wisconsin dual reduction for their Ford trucks.

For one of the Ford trucks, he had secured an L. H. Pierce trailer, manufactured in Portland, while the other two trailers were fabricated in local shops in Tillamook. On the trailer for the Federal, 9.75-20 balloon tires were used and on the Ford trailers, 9.00-20 balloons, there being eight to each trailer. All trailer brakes were operated by vacuum. The Federal rig cost him about $3,250 and the Fords about $1,400 each, equipped as above and with the rear end bolsters and mountings built on by the trailer people.

"The big truck can, of course, pull out heavier loads," Mr. Welch remarked, "but that doesn't do so much good now that the utility commission has placed the 54,000 lb. limit on the loads. I cannot load the heavy truck to its full capacity and the smaller trucks, with their greater speed, are now earning as much each as the bigger one."

"WHAT are the costs of operation," was asked, "and what should be the ratio of costs to earning power of a truck and trailer to make this business a paying one?"

"It is unfortunate," he replied, "that I canot give you my average operating costs at this time. Less than two months ago, I traded in all my rigs for the three you see out there, so I haven't figures as yet that I could call accurate. However, it is pretty definitely established among us in the industry who have kept costs, that they cannot go over 24 cents a mile, round trip without a raise in the per thousand foot rate or else the danger of our working more or less for the fun of it. These costs should include fuel, oil, depreciation, tires, general upkeep, insurance, license and driver hire at 75 cents per hour.

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the possible exception of the very heaviest kind of construction work. The International people, who have put a great many trucks into this field, say that depreciation, alone, should be figured as at least 40 per cent of earnings.

"This particular job is fairly profitable, all things considered. At the $2.15 per thousand rate, we are making about 8 cents per 1000 ft., per mile, round trip. This allows for $1.00 for loading and traveling the first mile. Charge against this the above operating cost of 24 cents per mile and there is margin left for the contractor's profit and the chances he takes on getting steady work. Many things can come up to interfere with steady operation—strikes, poor lumber market, fire hazard, etc. Right now, for instance, unless the weather man provides us with more humidity by tomorrow morning the trucks will stay there in the yard, for the fire warden is set to stop all traffic and work in the woods unless more moisture is forthcoming, and that might be for a number of days."

Rather sketchily, the foregoing tells some of the problems of the log hauler at one small spot on the map. Much the same thing is going on in the great logging areas all over Oregon and Washington, both burned over and green. To those who see it for the first time, a "burn" is a sickening sight. Hundreds of years of Nature's most diligent and patient work "gone with the wind." In spite of the fact that many of the trees were ripening and ready to die, and much of the timber is so far in that only an occasional hunter would ever see it anyway, still it is a painful sight. To find some of it being saved before it becomes the food of worms is encouraging, and in that salvage task, hats off to the modern motor truck and the man who operates it!

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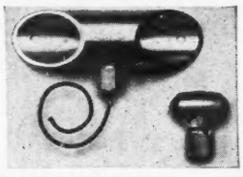

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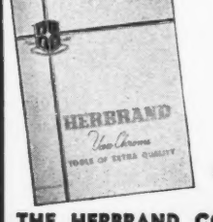

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FITZGERALD GASKETS

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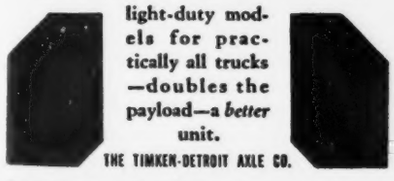
Timken 6-Wheel Conversion Unit



light-duty models for practically all trucks—doubles the payload—a *better* unit.

THE TIMKEN-DETROIT AXLE CO.

NEW PRODUCTS

(CONTINUED FROM PAGE 44)

Color Mixing Gage

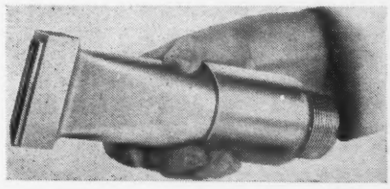
A new device for accurately measuring paint quantities right in the can and known as the Holmes Depth Gage has been placed on the market by Sherwin-Williams Co., 101 Prospect Ave., N. W., Cleveland, Ohio. It consists of a hollow tube on which an accurate graduated table is calibrated, dividing pints and quarts into 100 equal parts. Inside the tube is a movable flashlight bulb. A 3-point holder is provided.

The gage is set for the required proportion of one color, by moving the bulb. When the required amount of paint has been poured in, the bulb is submerged and appears to go out. Then the tube is raised for the required proportion of the other color, and the process repeated.

The depth gage is being offered free, together with a spray gun adapter and other accessories, with the purchase of an assortment of Sherwin-Williams Opex mixing enamels listing at $14.65.

New Sand Blast Gun

A sand blast gun is being manufactured by Michiana Products Corp., Michigan City, Ind., which incorporates new features of design and principle. It is



claimed that this design permits the use of lower cost sand—removes grime, grease, and old finishes faster, and reduces buckling to a minimum on light materials without cutting or pitting the surfaces.

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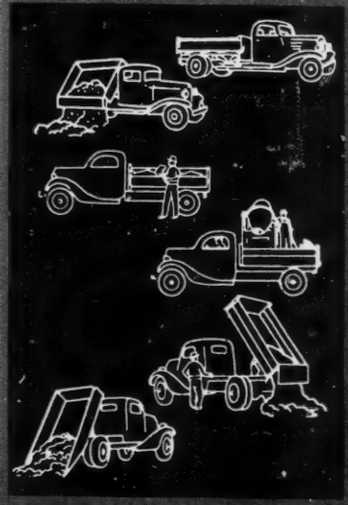

There is a St. Paul Hydraulic hoist and body for every model of truck. Write for name of nearest distributor.

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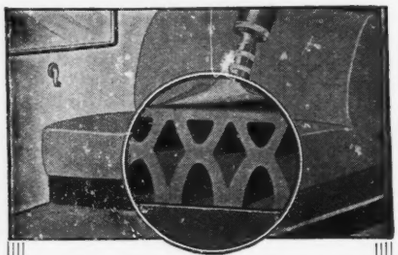

The new improved Black Diamond all-rubber seat cushions and back rests have a new ultra-modern styling that will please every owner and every driver. But more important than eye-value are the values under the surface. The famous diamond grid construction engineered into these cushions has brought about new standards of utility, performance and economy. They last longer and have no upkeep expense. Information describing cushion sizes, styles and prices for use in your own trucks will be sent on request.

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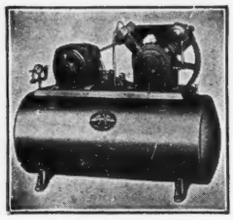
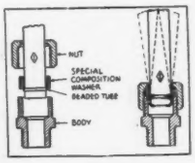
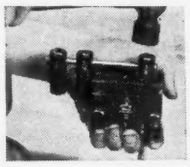


The Dayton Air Compressor Co., Dayton, Ohio

DeLuxe Offers New Fitting

DeLuxe Products Corp., LaPorte, Ind., is recommending the use of a new shock-proof flexible fitting recently developed by the Imperial Brass Mfg. Co., Chicago. The

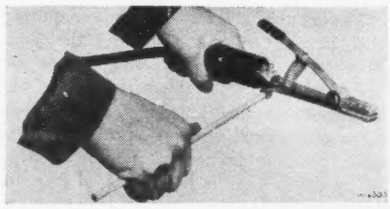




fitting may be used at both engine and filter ends of tubing and eliminates the danger of tube failure through vibration. A bead must be swedged on the tube when used with this type fitting and a special tool has been designed for the purpose and is available only through the DeLuxe Products Corp.

Lincoln Electrode Holder

A new Type ST arc welding electrode holder, very light weight for its capacity,



has been announced by The Lincoln Electric Co., Cleveland, Ohio. It weighs 14 oz. and has a current capacity of 250 amp. continuous.

New Granoseal Rings

Sealed Power piston rings are now being treated with a special chemical process known as Granoseal producing a ferroso-ferric phosphate. The surface which is thus created is said to be non-scuffing, oil absorbing and wear resistant. The new process in no way effects the inherent shape characteristics of the ring. Sealed Power Corp., Muskegon, Mich., is the maker.

Steel Safe for Trucks

Fleet owners whose drivers make COD collections will be interested in the Stieglbilt steel strong box which can be permanently fastened to the body or chassis within easy reach of the driver. A slot is provided and once money is deposited, no

one has access to the box, except an authorized individual at the garage. Full details from L. Stieglitz, 447 West 19th St., New York, N. Y.

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